

**Line Department Riyadh
Line Technical Support Division**



REQUEST FOR REVIEW OF PROJECTS SUBMITTAL / TRANSMITTAL

Submittal No.	TDP/8257UG/16/21 REV.00	Date:	27th Aug 2017
PROJECT TITLE : Replacement of 380kV Cables and Termination in SS 9002 at PP8			
CONTRACT No. : 4400008257		BI No. :	JO No.:
To : Division Manager Line Technical Support Division		From : Trading & Development Partnership (TDP) (Contractor)	
ACCEPTANCE OF THE FOLLOWING SUBMITTAL IS HEREBY REQUESTED: Check in the ☐ Drawings / ☐ Materials / ☐ Test Reports ☐ Others (Specify) Appropriate Box: Sketches Equipment			
FILL-UP APPLICABLE INFORMATION BELOW:			
Description	: Health & Safety Plan		
Reference	:		
Manufacturer/Supplier	: TDP		
Vendor Address	: Saudi Arabia		
Expected Delivery Time	:		
COMPLYING WITH SCOPE OF WORK AND TECHNICAL SPECIFICATIONS? ☒ YES ☐ NO IF "NO" INDICATE DEVIATIONS : (Provide justification and attach supporting documents)			
(Contractor) Submitted by : Project Manager Signature :  Name : Eng. Karim Ramadan Date : 27-8-2017		(SEC) Received by: Project Engineer Signature : Name : Eng. Abdulmajeed Al Zamil Date :	
FOR SEC USE ONLY			
SEC HAVE REVIEWED THE ABOVE SUBMITTAL AND FOUND IT: ☐ ACCEPTABLE ☐ ACCEPTABLE, AS NOTED ☐ NOT ACCEPTABLE (RESUBMIT) ☐ PROVIDE ADDITIONAL INFORMATION ☐ SEE ATTACHED COMMENTS		REMARKS : Please use extra sheets if needed.	
Line Maintenance Technical Support Division Manager Signature : Name : Eng. Abdulhamed Elrashod Date :		(Contractor) Received by Signature : Name : Date :	
NOTE : Acceptance does not release the Contractor from his responsibilities in performing the work in strict conformance with Contract, Scope of Work and Technical Specifications.			

Trading & Development Partnership

Company With Limited Liability Capital (S.R. 2.000.000)



الشركة التضامنية للأعمار والتجارة

شركة ذات مسئولية محدودة - رأس المال المدفوع (٢,٠٠٠,٠٠٠) ريال سعودي

Ref: TDP/8257UG/16/21 REV.00

Date: 27th Aug 2017 G

National Grid Company,
Line Technical Support Division Riyadh,

Attention : Eng. Abdulhamed Elrashod,
Lines Maintenance Technical Support Division Manager
Riyadh, Fax No: +966-11-75201

Project : Replacement of 380kV Cables and Termination in SS 9002 at PP8

Contract No : 4400008257

Subject : Health & Safety Plan

Dear Sir,

With reference to the above mentioned subject, please find attached herewith Health & Safety Plan by TDP, Saudi Arabia for the above mentioned 380KV Underground Cable Project.

For your review / approval.

Best Regards,
Trading & Development Partnership, (TDP)

KARIM
27-8-2017

Eng. Karim Ramadan
Project Manager

CERTIFICATES



JIBBY B. CAYABYAB
KSA Tel : (+966) 560296086
 E-mail: jibby@tdpco.com

Career Objective:

To acquire a challenging position in the field of Health, Safety and Environment with an Organization that effectively shares skills, knowledge and expertise.

Personal Profile:

A fast learner, very industrious and a good team player who can work efficiently under pressure with less supervision, Selfless by nature, a very reliable person, confident, bold, respectful, trustworthy and always striving to achieve the best

Educational Background:

Lyceum North Western University
 Bachelor of Science in Civil Engineering
 Dagupan City, Philippines

1998-2004

Extra Courses and Training:

- **International Safety Standard Training**

ELM International Training, Skills Development, Research & Consultancy, Inc
 Urdaneta City, Pangasinan Philippines

Training Based On;

- OSHA 1910 (Construction Safety).
- OSHA 1926 (Scaffold Safety, Fall Protection System, Excavation.
- Safety, Fire safety, Electrical Safety, Crane Safety, Material Handling and Storage,).
- OSHA 18000 (HSE Management System; Accident Investigation, Job Hazard Analysis and Control, Job Safety Analysis; Permit to Work System).

- **Authorize Gas Tester**

Clients JK Trainings

Conducted on Pearl GTL Village Training Center, Ras Laffan Industrial City, Qatar

- Hand Safety and Manual Handling
- Confined Space Entry
- Lifting and Rigging Awareness
- Hazard Identification
- Working at Height
- Hydrogen Sulphide Awareness



- **International Leadership Management**

- Introduction to HSSE and Leadership
- Train the Trainer
- Practical Leadership
- Cultural Awareness
- Introduction to FSL, PTW & TSTI
- Quality Control
- Productivity through Planning & Organizing
- Introduction to HSSE & Leadership

- **Company Trainings**

Venue: CCIC-PGTL HSE Training Room, Ras Laffan Industrial City, Qatar

Conducted by: CCIC PGTL HSE Department

- Working at Height Training Course
- Excavation and Trenching Safety Training Course
- Confined Space Entry Training Course
- Hole Watch Training Course
- Banks man Training Course
- Rigging and Lifting Course
- Hand Protection Course
- Fire Prevention Training Course
- Heat Stress Training Course
- Total Safety Task Instruction Training Course
- Barricades Training Course
- Personal Protective Equipment Training Course
- Manual Handling Training Course
- Hand Injury Training Course
- Hazard Identification Training Course
- Chemical Hazardous Awareness

- **BASIC LIFE SUPPORT AND FIRST AID TRAINING COURSE**

Venue: HAMMAD INTERNATIONAL TRAINING CENTER, Doha Qatar

Conducted by: HAMMAD HOSPITAL



Work Experience:

- **Trading & Development Partnership Company** Jan. 2014 - Present
Position: HSE Engineer/ Safety Manager
Location: Riyadh , KSA
Projects: Substation & Underground Electrical Project
Client: Saudi Electric Company
Industry: Electrical Works and Building Construction

- **Saudi Binladin Group of Company** Jul. 2014 – Dec. 2014
Position: HSE Engineer
Location: Riyadh , KSA
Project: Khurais Interchange
Client: Ministry of Interior Kingdom of Saudi Arabia
Industry: Bridge Construction

- **Consolidated Contractors International Company** Jun. 2011 – Dec. 2013
Position: HSE Officer
Location: Ras Laffan Industrial City, Doha Qatar
Project: Barzan Onshore Project
Client: Ras Gas
Industry: Oil and Gas Construction

- **Consolidated Contractors International Company** Mar. 2008 – Jun. 2011
Position: HSE Officer
Location: Ras Laffan Industrial City, Doha Qatar
Project: Qatar Shell Pearl GTL
Client: JGC International Inc. / Kellogg Brown Root
Industry: Oil and Gas Construction

- **DACWORKS UNITED INC** Feb. 2004 – Feb. 2008
Position: Safety Officer
Location: 514 Cordillera Street, Mandaluyong City, Philippines



Primary Duties and Responsibilities:

- Provides Safety, Health and Environmental, support and mentorship to Operations personnel and other internal clients to ensure the conduct of safe and hygienic work practices.
- Assists with the development and implementation of safe operating and emergency procedures, manuals, bulletins and other safety publications.
- Takes an active role in the development and implementation of the permit to work system and provides independent oversight by reviewing selected permits to work issued by Operations personnel.
- Assists with the development and conduct of safety training courses.
- Conducts regular facility safety inspections of operating plant and equipment as well as new projects/modifications under construction, prior to mechanical acceptance and start up.
- Participates in audits of safety program implementation.
- Participates in incident control during accidents or emergencies.
- Leads or participates in incident investigations, including near misses, property damage, injuries, occupational illness and spills/loss of containment.
- Assists with the development and maintenance of computer based incident record keeping system.
- Ensures that safety equipment and facilities are kept in best working condition by developing and implementing equipment inspection and preventive maintenance programs, setting up efficient record keeping systems of all equipment under his responsibility and recommends the replacement of faulty equipment.
- Participates in safety reviews as required. Includes Hazard, What-If, Cause and Effects reviews.
- Assists with industrial hygiene surveys to identify and quantify occupational workplace stresses.
- Keeps abreast of new developments, safe working practices, government regulations and relevant international codes of practice.
- Participates in local industry associations, committees or work groups and liaises with counterparts at other facilities to identify areas where the Company might benefit by adopting best practices.
- Implement company safety rules and regulations inside the worksite.
- Conducting safety toolbox meeting to all workers prior to start the work.
- Daily routine inspection on worksite before, during and after operations.
- Provide safety precautions to designated such as barricade, signage and placards for the hazardous area.
- Near miss reporting.
- Monitor strict compliance of "Permit to Work" system at worksite.
- Ensured availability of firefighting Extinguishers where ever necessary.
- Monitor life Critical Activities on site & correct the unsafe practices.
- Monitor the 'Permit to Work' system.
- First aid and emergency response.
- Report unsafe act and unsafe conditions.
- Investigate accidents/incidents.
- Ensure all personnel on site are properly trained.
- Coordinate with the construction group regarding safety issues.
- Preparation of daily observation card.
- Preparation of daily report.
- Preparation of Inspection Checklist.
- Identify and cause correction of occupational safety and health hazards.
- Continuously monitor workers for exposure to safety or health hazardous conditions.
- Alter, suspend, evacuate or terminate activities that may pose immanent safety or health danger to the workers.



- Take appropriate action to mitigate or eliminate unsafe condition, operation, or hazard.
- Provide training and safety and health information.
- Perform assessment of engineering controls and PPE.
- Document both safe and unsafe acts, corrective actions taken on the scene, accidents or injuries and ways to improve safety on future incidents.
- Identify hazardous situations associated with the incident.
- Review the Incident Action Plan (IAP) for safety implications.
- Exercise emergency authority to stop and prevent unsafe acts.
- Investigate accidents that have occurred within the incident area.

Primary Duties and Responsibilities:

- Working closely with site based contractor(s).
- Monitor HSE plan for site preparation and construction activities.
- Ensure effective safety observation, near miss and incident reporting programs are in place.
- Define and execute a risk based inspection and audit schedule for site based activities.
- Ensure deliver of best international practices by site contractors for site based activities, notably lifting, heavy and light vehicles, excavation, confined space, electrical safety and isolations.
- Ensure full investigation of all incidents to determine system causes and the sharing of lessons.
- Ensure a robust permit to work system is in place for work that is not conducted under 'routine work' procedures.
- Conduct site HSE inspections.
- All incidents fully reported according to the Company HSSE Reporting Standard.
- A Project site based risk register and corrective action register tracked and reported monthly.
- Nonconformance reports produced and corrective actions in place/training conducted for violations.
- All incidents fully investigated and lessons learned reports produced for incidents.
- Permit to work system audited and corrective actions communicated to contractor
- On a weekly basis, perform site HSE inspections of selected areas of the construction areas.

Commissioning and Start Up Activities:

- Mechanical Preparation
- Chemical Cleaning Internal(Pipeline)
- Mechanical Restoration
- Hydro test
- Air Blowing
- Oil flushing
- Steam Blowing
- High pressure leak test
- Tightness test
- Electrical testing/functional tests/energizing
- Instruments calibration and functional test
- Loading of chemicals
- Loading of catalyst
- Verification of Mechanical Completion



Professional Membership / Certificates:

- ❖ **PHILIPPINE INSTITUTE OF CIVIL ENGINEERS**
NATIONAL MEMBER NO. 31464
- ❖ **SAUDI COUNCIL OF ENGINEERS**
MEMBERSHIP NO. 223256
- ❖ **SUPERVISOR SPECIFIC SAFETY TRAINING (OSHO)**
CERTIFICATE NO. 4908
- ❖ **INSTITUTE OF LEADERSHIP AND MANAGEMENT (ILM)**
SERIAL NO. 109010348011
- ❖ **NEBOSH (INTERNATIONAL GENERAL CERTIFICATE IN OCCUPATIONAL HEALTH & SAFETY)**
SERIAL NO.00136622/433377
- ❖ **INTERNATIONAL BOARD OF ENVIRONMENTAL HEALTH & SAFETY (IBOEHS)**
REGISTERED SAFETY MANAGER
CERTIFICATION # 3707

Achievement Awards:

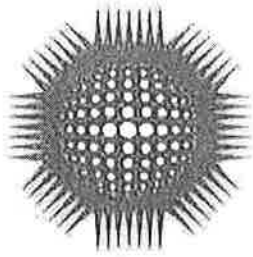
- ❖ Certificate of Appreciation for being excellent to his assigned task and the safest worker. Award given by Kellogg Brown and Root International Company and Japan Group of Company's Joint Venture on February 2009 Good user of Access, Outlook, Good surfing skills on the Internet.
- ❖ Certificate of Appreciation, Pearl GTL Worksite a safe place to work. CCCT 5 million hour without LTI 19 February 2009.
- ❖ Certificate of Appreciation, As an appreciation of his unselfish effort and outstanding performance at Qatar Shell Pearl GTL Project Phase 2
- ❖ Certificate of Appreciation, as an appreciation of his personal efforts in achieving the 100 days Incident & Injury Free Performance at the GTL Phase 2 BD Area.
- ❖ Certificate of Appreciation, as an appreciation of your efforts and outstanding performance in achieving the 200 days Incident & Injury Free Performance at the Pearl GTL Project Phase 2 BD Area.
- ❖ Certificate of Appreciation, as an appreciation of outstanding safe and productive performance at Qatar Shell Pearl GTL Project.
- ❖ Certificate of Appreciation for your Dedication in Ensuring a Safe and Successful Start to the Utilities Steam Blow Programmed.
- ❖ Certificate of Appreciation, Commitment to ensure that CCCT-Utilities Paint Yard remains Incident and Injury Free (Winner of the C6 – Utilities Gold Flag (Area of the Month).
- ❖ Certificate of Appreciation, KBR-CCCT (Utilities and Building) HSE Team, Recognition for our achievement of 5 million Safe Production Hours Zero (0) Lost time Incidents.



- ❖ Certificate of Appreciation of his excellent efforts and the able coordination in leading a construction team for the safe and timely achievement of one of the critical milestones of, The Project of 22,200 Tons Structural Steel Erection in a 50% Completion.
- ❖ Certificate of Appreciation of CCC in recognition to his/her outstanding HSSE Performance as TSTI Best Coach, given on the 17th March 2011.
- ❖ Certificate of Appreciation of his efforts & outstanding performance at Incident & Injury Free and contribution Perfect Week Program at the GTL Phase 2.
- ❖ Certificate of Appreciation of his personal efforts in achieving the 100 days Incident & Injury Free Performance at the GTL Phase 2 BD Area given on 6th April 2011.

Personal Information:

Date of Birth : March 31, 1981
Place of Birth : Banaong Sta. Barbara, Pangasinan, Philippines
Sex : Male
Civil Status : Married
Nationality : Filipino
Religion : Roman Catholic



nebosh

Management of international health and safety

A unit of the NEBOSH International General Certificate in Occupational Health and Safety

Jibby Bato Cayabyab

achieved this unit on

31 May 2012

Sir Bill Callaghan
Chair

Teresa Budworth
Chief Executive

Master log certificate No: IGC1/00136622/371622



¹The National Examination Board in Occupational Safety and Health
Registered in
England & Wales No. 2698100
A Charitable Company
Charity No. 1010444



Institute of
Leadership &
Management

The Leadership and Supervisor Training Programme

Development Programme

Achieved by

JIBBY BATO CAYABYAB

through **QATAR INTERNATIONAL SAFETY CENTRE W.L.L.**



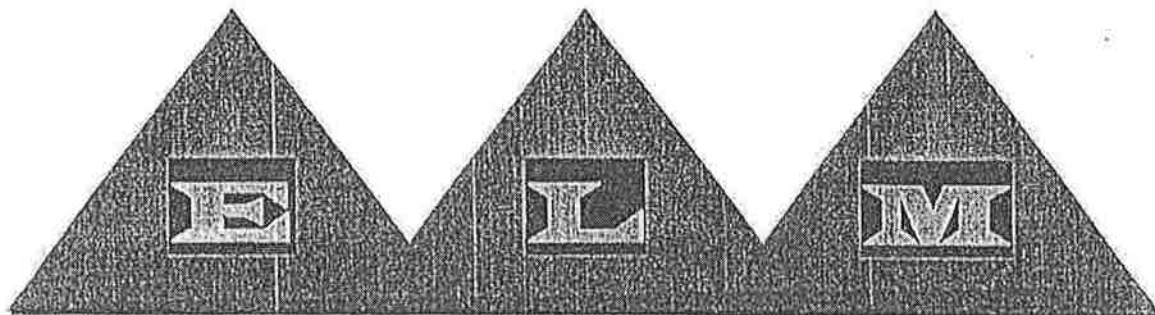
Awarded: 26 January 2010
NB109010348011

Penny de Valk
Chief Executive
ILM

Ralph Bauer
Chairman
ILM



ILM is part of the City & Guilds Group and is a company limited by guarantee no. 601049 Registered Charity 248226
The City and Guilds of London Institute Incorporated by Royal Charter Founded 1878.



**INTERNATIONAL TRAINING, SKILLS
DEVELOPMENT, RESEARCH &
CONSULTANCY, INC.**

Certifies that:

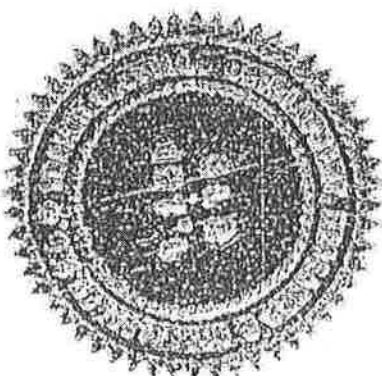
JIBBY B. CAYABYAB

has successfully completed and passed the requirements of this Institution for the

SEMINAR ON INTERNATIONAL SAFETY STANDARDS

(November 3 - 9, 2007)

Given this 11th day of November 2007 in the City of San Carlos,
Province of Pangasinan, Philippines.



Louie H. Anos

LOUIE H. ANOS
Registrar/Training Director

The authenticity of this certificate and its contents may be verified at the principal office of ELM
INT'L which is situated at Rm. 201, Mina's Apt., Dona Pepang II, San Vicente, City of Urdaneta,
Province of Pangasinan, Phil., Tel. No. (75) 568-2179 / Mobile No. 09275529069

- CTN103 -

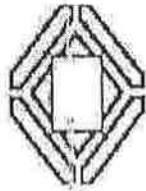




المركز الوطني للأمن وإدارة الأزمات
National Occupational Safety & Health Centre



Consolidated Contractors Company



Teyseer Contracting Co.



Safety & Control Department

This is to certify that

JIBBY B. CAYABYAB

Has successfully completed a course on

Superbisor Specific Safety Training

5/12/2008

Pearl GTL, Qatar

Certificate No. 4908



OSHO CENTRE



Improving Pearl GTL HSE Culture

This is to certify that

Jibby Cayabyab

has successfully completed

INTRODUCTION TO HSSE & LEADERSHIP



Conducted at the Pearl Village Training Centre
Ras Laffan, Qatar

Yohan Kim
Leadership Trainer

9th November 2008





قطر للبترول
Qatar Petroleum

Improving Pearl GTL HSE Culture

This is to certify that

Jibby B. Cayabyab

has successfully completed

INTRODUCTION TO FSI, PTW & TST



Conducted at the Pearl Village Training Centre
Ras Laffan, Qatar

Siva Prasad
Leadership Trainer



23 December 2009





قطر للبترول
Qatar Petroleum

Improving Pearl GTL HSE Culture

This is to certify that

Jibby Cayabyab

has successfully completed

CULTURAL AWARENESS



Conducted at the Pearl Village Training Centre
Ras Laffan, Qatar

20 December 2009

PP

Nordine Naji

Nordine Naji
Leadership Trainer



QISC
Qatar Industrial Services Company

April 2009

Certificate of Appreciation

is awarded to:

Jibby B. Cayabyab

Commitment to ensure that CCCT-Utilities Paint Yard remains Incident
and Injury Free

Winner of the CC-Utilities Gold Flag (Area of the Month)



Dr. James Jones
HSSE Manager
JK - Utilities (KBR)



Roger McCabe
Construction Manager
JK - Utilities (Power & Steam KBR)



Pearl GTL





Improving Pearl GTL Safety Culture

This is to certify that

Jibby B. Cayayab

has successfully completed

HAZARD IDENTIFICATION CBT COURSE



Conducted at the Pearl Village Training Centre
Ras Laffan, Qatar

10th December 2008

Bijay Kumar Rai
CBT Facilitator





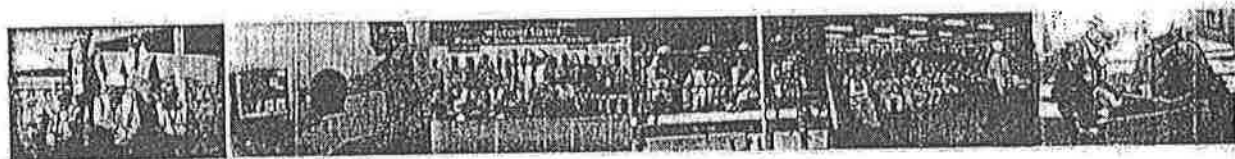
Improving Pearl GTL HSE Culture

This is to certify that

Jibby B. Cayabyab

has successfully completed

PRODUCTIVITY THROUGH PLANNING & ORGANISING



Conducted at the Pearl Village Training Centre
Ras Laffan, Qatar

31 December 2009


George W. Noronha
Leadership Trainer





Improving Pearl GTL HSE Culture

This is to certify that

Jibby Cayabyab

has successfully completed

QUALITY CONTROL



Conducted at the Pearl Village Training Centre
Ras Laffan, Qatar

28 December 2009


Thomas Sharkey
Leadership Trainer





Improving Pearl GTL Safety Culture

This is to certify that

Jibby Cayabyab

has successfully completed

WORKING AT HEIGHT CBT COURSE



Conducted at the Pearl Village Training Centre
Ras Laffan, Qatar

Bijay Kumar Rai
CBT Supervisor



2nd April 2009





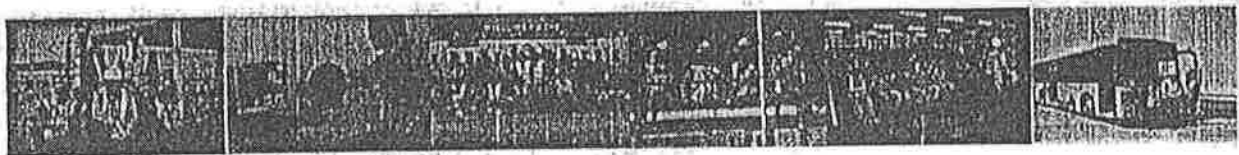
Improving Pearl GTL Safety Culture

This is to certify that

Jibby Cayabyab

has successfully completed

HAND SAFETY & MANUAL HANDLING CBT COURSE



Conducted at the Pearl Village Training Centre
Ras Laffan, Qatar

Bijay Kumar Rai
CBT Facilitator

14th February 2009





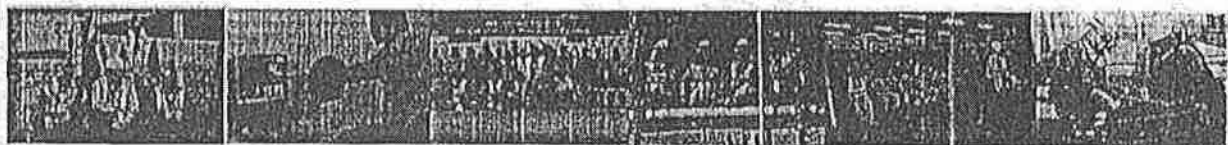
Improving Pearl GTL HSE Culture

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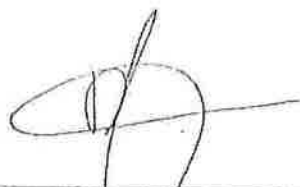
Jibby Cayabyab

has successfully completed

SUPERVISION WITHIN LIFE CRITICAL ACTIVITIES



Conducted at the Pearl Village Training Centre
Ras Laffan, Qatar



Harry Dooyoung Yang
Leadership Trainer



25 – 26 May 2009





Improving Pearl GTL Safety Culture

This is to certify that

Jibby Cayabyab

has successfully completed

CONFINED SPACE ENTRY CBT COURSE



Conducted at the Pearl Village Training Centre
Ras Laffan, Qatar

Bijay Kumar Rai
CBT Facilitator



14th February 2009



Qatar International Safety Centre



قطر للبترول
Qatar Petroleum

Improving Pearl GUL HSE Culture

This is to certify that

Jibby Cayabyab

has successfully completed

PRACTICAL LEADERSHIP



Conducted at the Pearl Village Training Centre
Ras Laffan, Qatar


Paul Murphy
Leadership Trainer

11 -12 November 2008





Improving Pearl GTL Safety Culture

This is to certify that

Jibby B. Cayabyab

has successfully completed

LIFTING & RIGGING AWARENESS CBT COURSE



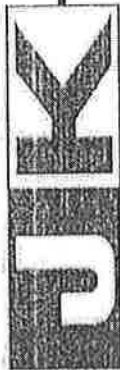
Conducted at the Pearl Village Training Centre
Ras Laffan, Qatar

Bijay Kumar Rai
CBT Facilitator

10th December 2008



February 2009



Certificate of Appreciation

is awarded to :

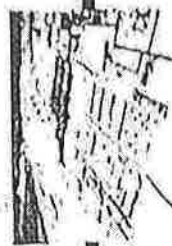
Jibby Bato Cayabyab

KBR-CCCT (Utilities and Building) HSE Team.

Recognition for our achievement of 5 million Safe Production Hours
Zero (0) Lost time Incidents

Dr. James Jones
HSSE Manager
JK EPCM GTL
Pearl GTL Project

R
Roger McCabe
Power Construction Manager
JK EPCM GTL
Pearl GTL Project





قطر للبترول
Qatar Petroleum

Improving Pearl GIL HSE Culture

This is to certify that

Jibby Cayabyab

has successfully completed

TRAIN THE TRAINER



Conducted at the Pearl Village Training Centre
Ras Laffan, Qatar

10th November 2008

William

William Lemon
Leadership Trainer





RasGas Company Limited

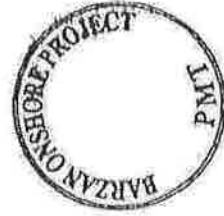
CERTIFICATE OF APPRECIATION

Mr. Jibby Cayabyab

This certificate has been awarded to **Mr. Jibby Cayabyab** (CCC-SHE&S Officer) for his excellent performance and support in the RasGas BARZAN Onshore project. His contributions were instrumental in keeping the site safe & achieving an Incident & Injury Free at site in-line with the project objectives.



Paul Myles
SHE Lead (Process Area & TCF)
Barzan Onshore Project



Bob DeHart
SHE&S Manager
Barzan Onshore Project

November 2013

the power of the drop
THE ENERGY TO TRANSFORM





RasGas

CONSOLIDATED CONTRACTORS GROUP (CCC) /
TEYSEER CONTRACTING COMPANY JV
Ras Laffan Industrial City, State of Qatar



BARZAN ONSHORE EARLY SITE WORKS PROJECT

CERTIFICATE OF APPRECIATION

This certificate is awarded to

Mr. Jibby B. Cayabyab

SHE&S ADVISOR

For

Excellent Safety Performance

In recognition of his Positive Contribution to SHE&S on the
Barzan ESW Project during the achievement of

1.25 Million Man-hours Worked Without LTI

Awarded on 22nd of September, 2011 at BESW SHE&S Training Center



Anan Al Amad
Project Manager – CCCT JV



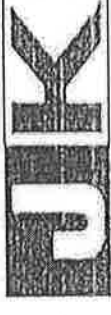
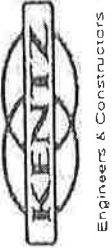
Ahmed Jamal
Dpy. SHE&S Manager



Bob DeHart
Project SHE&S Manager



Karl Ziegler
Construction Manager – RG



Certificate of Appreciation

This certificate was awarded to recognize your contribution in making the
Pearl GTL Utilities Worksite a safe place to work

QatarKentz 2.0 million hours without LTI
CCCT 5.0 million hours without LTI
Desccon 8.0 million hours without LTI
TT-JV 0.6 million hours without LTI

Jibby B. Cayabyab



Steve Holmés
Onshore Project Manager
TT-JV-Utilities



Muhammad Yousof
Site Manager

Khalid Suleiman
Project Manager
CCCT-Utilities

Khalid Suleiman

Mark Taylor
Asset Delivery Team Leader
CCCT - Utilities

Ross McEwen
Senior Construction Manager
JKF Utilities

Garry Ford
Project Manager
QatarKentz-Utilities

19 February 2009



Pearl GTL Project



Certificate of Appreciation Incident & Injury Free Programme

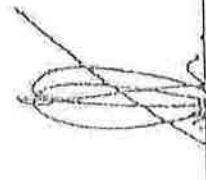
This Certificate is awarded by JGC to

Mr. JIBBY A. CAYABYAB

USE OFFICER

As an appreciation of your efforts and outstanding performance in achieving
the 200 days Incident & Injury Free
at the Pearl GTL Project Phase-2 BD Area.

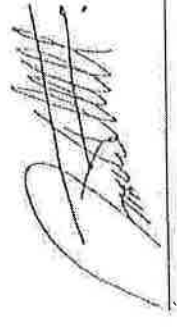




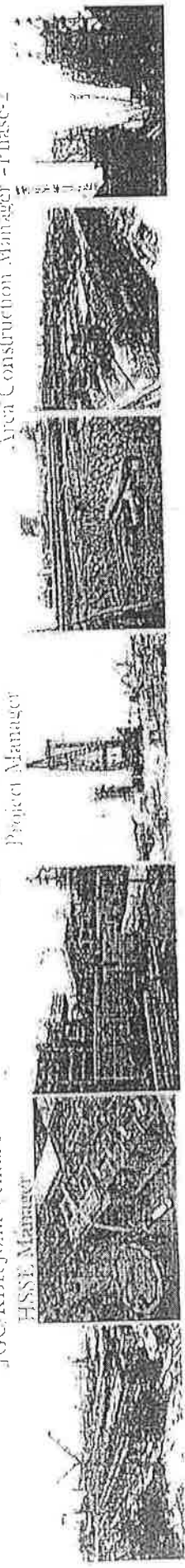
Timothy Walsh
JGC/KBR Joint Venture
HSSE Manager

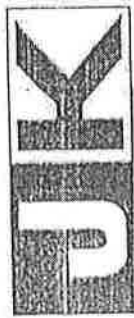


Nobuyuki Sakae
JGC KBR Joint Venture
Project Manager



Masato Sakaki
JGC/KBR Joint Venture
Area Construction Manager -Phase-2





Pearl GTL



Certificate of Appreciation Incident & Injury Free Programme

This Certificate is awarded by JGC to

Mr. Jibby B. Cayabyab

HSE Officer

Badge No.: 68888

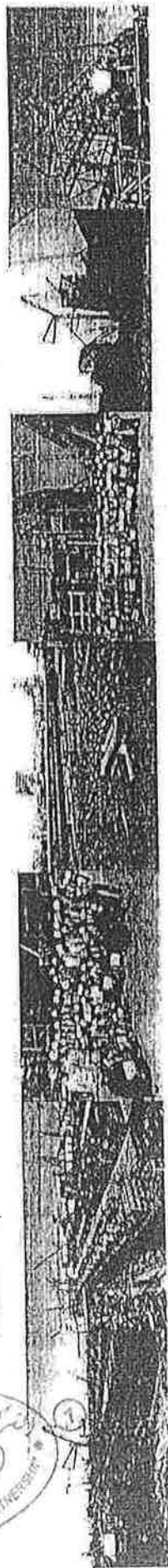
As an appreciation of his personal efforts in achieving the 100 days Incident & Injury
Free Performance at the GTL Phase 2 BD Area.

Timothy Walsh
JGC/KBR Joint Venture
HSE Manager



Akira Kondo
JGC-KBR Joint Venture
Construction Manager

Hiroshi Kishimoto
JGC-KBR Joint Venture
Area Construction Manager Phase 2





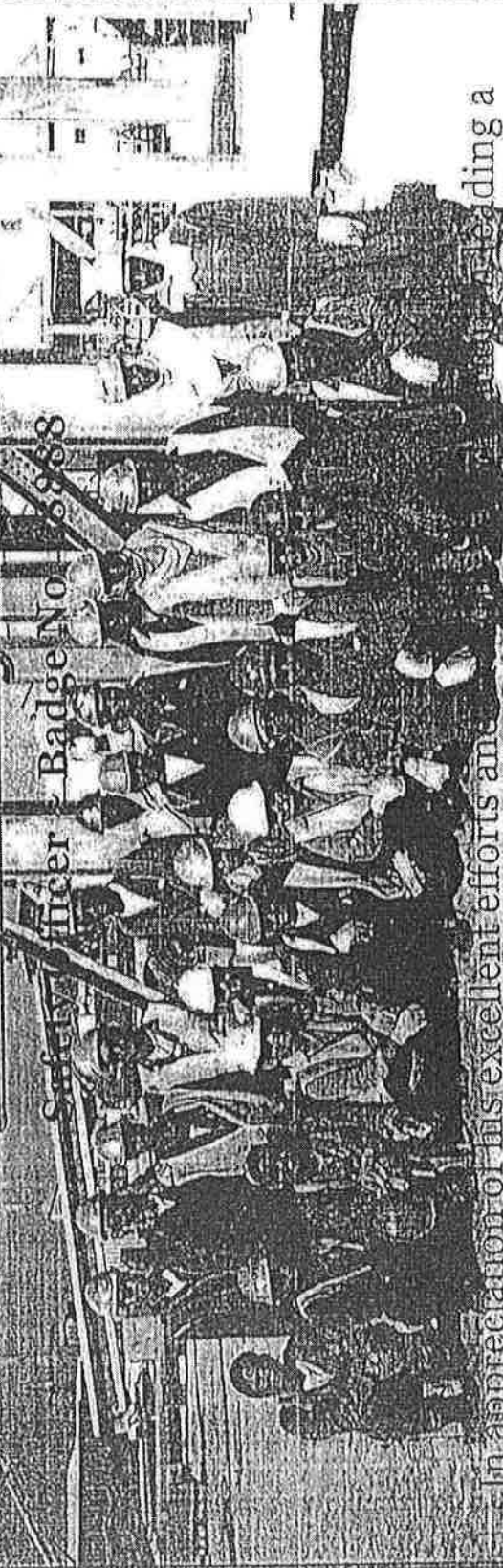
Pearl GEM Project

Certificate of Appreciation

This Certificate is Awarded to

Yibb/B. Cayabub

Safety Officer - Badge No. 8888



In appreciation of his excellent efforts and contribution leading a construction team for the safe and timely achievement of one of the critical milestones of the Project of 22,200 Tons Structural Steel Erection in a 50% Completion.

[Signature]

Ahmed Walaa El Zaied
CCCT Stl. Str. Proj. Engr.

[Signature]

Takehiko Sato
JCC Stl. Structure Manager





Pearl GTL Project



Certificate of Appreciation Perfect Week Programme

This Certificate is awarded by Shell / JGC / CCIC to

Jibby Cayabyab

CCIC HSSE OFFICER

As an appreciation of his efforts & outstanding performance at Incident
Injury Free and contribution Perfect Week Program at the GTL Phase 2.



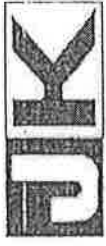

Akira Kondo
JGC KBR Joint Venture
Construction Manager


Terry Hughes
Qatar Shell GTL
Senior Project Engineer





Pearl GTL Project



Certificate of Appreciation Perfect Week Programme

This Certificate is awarded by Shell / JGC / CCIC to

Jibby Cayabyab

CCIC HSSE OFFICER

As an appreciation of his efforts & outstanding performance at Incident Injury Free and contribution Perfect Week Program at the GTL Phase 2.



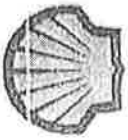
[Signature]

Akira Kondo
JGC-KBR Joint Venture
Construction Manager

[Signature]

Terry Hughes
Qatar Shell GTL
Senior Project Engineer





Pearl GTL Project



Certificate of Appreciation

This Certificate is awarded by JGC to

Mr. Jibby B. Cayabyab

HSE Officer

Badge No. 68888

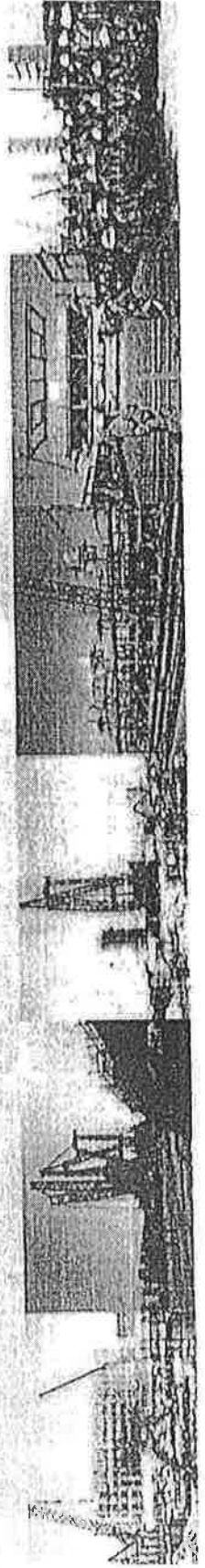
As an appreciation of his personal efforts in achieving the 100 days Incident & Injury Free Performance at the GTL Phase 2 BD Area.



Kim Jeongsoo
JGC-KBR Joint Venture
Area Superintendent Phase 2

Masato Sakaki
JGC-KBR Joint Venture
Area Construction Manager Phase 2

Hiroshi Kishimoto
JGC-KBR Joint Venture
Construction Manager Phase 2





Pearl GTL Project



Certificate of Appreciation

This Certificate is awarded by JGC to

Mr. Jibby B. Cayabyab

HSE Officer

Badge No. 68888

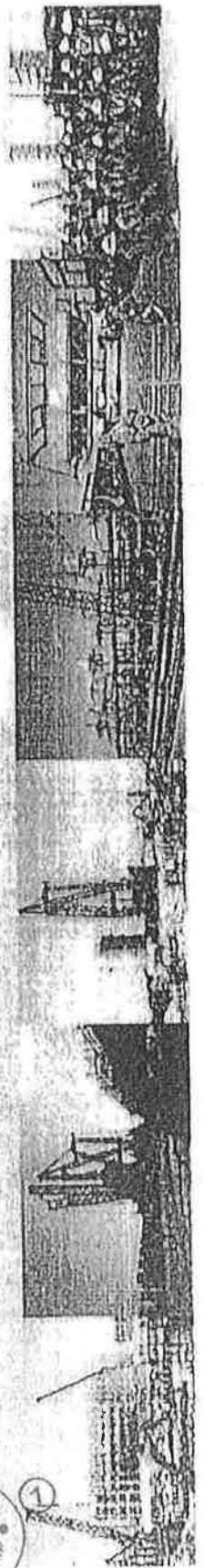
As an appreciation of his personal efforts in achieving the 100 days Incident & Injury Free Performance at the GTL Phase 2 BD Area.

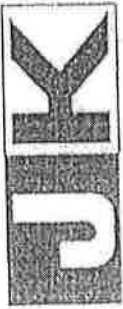


Kim Jeongsoo
JCC KBR Joint Venture
Area Superintendent Phase 2

Masao Sakaki
JCC KBR Joint Venture
Area Construction Manager Phase 2

Hiroshi-Kishimoto
JCC KBR Joint Venture
Construction Manager Phase 2





Pearl GTL



Certificate of Appreciation

This Certificate is awarded by JGC to

Jibby B. Cayabyab

Badge No. 48888

HSE Supervisor

As an appreciation of his unselfish efforts and outstanding performance at Qatar Shell Pearl GTL Project Phase 2.



ALBERT S. Demetilla

SGDKBR Joint Venture

Assist. Area Construction Superintendent

Masato Sakaki

SGDKBR Joint Venture

Area Construction Manager Phase 2



Pearl GTL Project

Certificate of Appreciation

is hereby presented to

JIBBY B. CAYABYAB

Of CCC in recognition to his/her outstanding **HSSE Performance as TSM Best Coach.**

The Pearl Management Team congratulates you on your excellent contribution to the establishment of a safe and healthy workplace.

Given on the 17th March, 2011

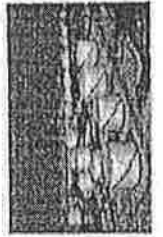
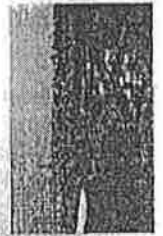
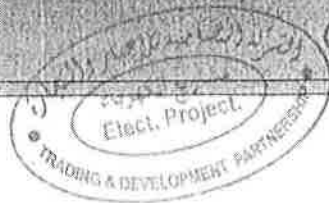
R.C.P.

Rob Harwood
Chief Pearl GTL Ltd
GTL AOT Project

Timothy Walsh
JGC/KBR Joint Venture
HSSE Manager



Akira Kondo
JGC/KBR Joint Venture
Managing Director



Qatar Petroleum





Barzan Onshore Project

Certificate of Appreciation

This certificate is awarded to

Mr. Jibby Cayabyab

Badge No. 68888

in recognition for his active support and observance of the SHE&S procedures, rules & regulations of this project as SHE&S Officer of

CCC/TJV




Jonathan Brand
JGC SHE&S Manager


Minoru Harada
JGC Site Manager



المركز الوطني للأمن وإدارة الأزمات
National Occupational Safety & Health Centre



Consolidated Contractors Company



Teyseer Contracting Co.



Safety & Control Department

This is to certify that

JIBBY B. CAYABYAB

Has successfully completed a course on

Superbisor Specific Safety Training

5/12/2008
Pearl GTL, Qatar

Certificate No. 4908



DEPARTMENT OF FOREIGN AFFAIRS

MANILA, PHILIPPINES



S.N. 14A - 0228734

AUTHENTICATION CERTIFICATE

All Whom These Presents Shall Come, Greetings:

EVANGELINA R. TUBAÑA, Authentication Officer of the Department

of Foreign Affairs, do hereby certify that NYPHA N. BUENIO

whose name appears signed in the attached certification / document, was at

the place of signing, Chief Administrative Officer, CHED Region I

City of San Fernando

duly appointed and qualified to sign the certification / document and that full faith and credit may be given to his acts.

As to the contents of the annexed document (s), the Department assumes no responsibilities.

I further Certify that I am familiar with his / her handwriting and we believe that the signature and seal affixed to the said certification / document are genuine.

IN WITNESS WHEREOF, I have hereunto set my hand at the City of Manila, Philippines, this 11th day of JUNE 2014.

EVANGELINA R. TUBAÑA

Authentication Officer

Annexed document(s) is/are:

CHED REGION I Certification re:
Transcript of Records & Diploma issued to
JIBBY BATO CAYABYAB
5522601



0371

10 June 2014, gmig

O.R. No. DATE

(Not valid without DFA dry seal, red ribbon, documentary stamp and if document bears any visible physical tampering, erasures or if soiled and worn out).



PHILIPPINE INSTITUTE OF CIVIL ENGINEERS, INC.

*"Dedicated to the advancement of Civil Engineering
Science to enable the members to render services
of maximum efficiency in the practice."*

*(Accredited) National Organization
Certificate No. 647 Professional Regulation Commission*

This is to Certify that

JIBBY B. CAYABYAB

*is a Student Member of this Institute and is fully
entitled to the privileges granted by its By Laws.*

Witness our hands, this 30th day of October

2002


RUBEN A. SY
National Secretary


MANUEL M. BONOAN
National President

MEMBERSHIP CODE

2002	62	372
Yr. Reg.	Chapter Code	Chapter Memb. No.

School Chapter

UNIVERSITY OF PANGASINAN



Engineering Accreditation Certificate



شهادة اعتماد مهندسين

Membership no.: 223256

الهيئة السعودية للمهندسين
SAUDI COUNCIL OF ENGINEERS

عضوية رقم: ٢٢٣٢٥٦

By virtue of the statute of Saudi Council of Engineers (issued under Royal Decree No. 36 dated 26/09/1428H) which aims at prescribing necessary rules, regulations, and examinations for obtaining professional degrees; in accordance with its executive bylaws and regulations for professional accreditation, and after verification of the validity of the certificates, The Council has decided to award:

Jibby Bato Cayabyab

Civil Engineer Professional Degree

جيبى باتو كاييب

درجة مهندس مدني محترف

This certification is valid until: 17 Dhul Hijja 1438

هذه الشهادة صالحة الى تاريخ ١٧ ذو الحجة ١٤٣٨

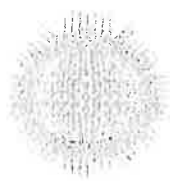
الأمين العام

Secretary General

مدير الاعتماد المهني

PAC Director





nebosh

NEBOSH International General Certificate in Occupational Health and Safety

This is to certify that

Jibby Bato Cayabyab

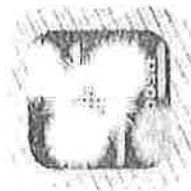
was awarded this qualification on

02 January 2013

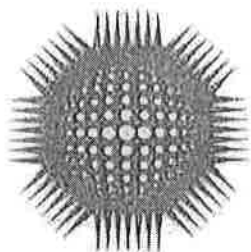
Sir Bill Callaghan
Chair

Teresa Budworth
Chief Executive

Master log certificate No: 00136622/433377



The National Examination
Board in Occupational
Safety and Health
Registered in
England & Wales No. 2698100
A Charitable Company
Charity No. 1010444



nebosh

Control of international workplace hazards

A unit of the;
NEBOSH International General Certificate in Occupational Health and Safety

Jibby Bato Cayabyab

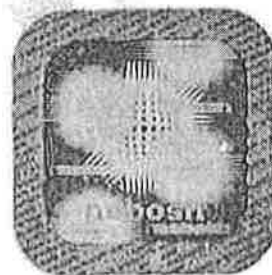
achieved this unit on

02 January 2013

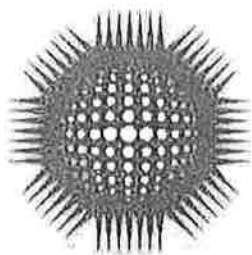
Sir Bill Callaghan
Chair

Teresa Budworth
Chief Executive

Master log certificate No: IGC2/00136622/431459



The National Examination
Board in Occupational
Safety and Health
Registered in
England & Wales No. 2698100
A Charitable Company
Charity No. 1010444



nebosh

International health and safety practical application

A unit of the NEBOSH International General Certificate in
Occupational Health and Safety

Jibby Bato Cayabyab

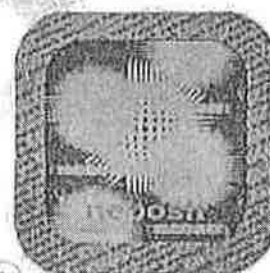
achieved this unit on

31 May 2012

Sir Bill Callaghan
Chair

Teresa Budworth
Chief Executive

Master log certificate No: IGC3/00136622/373746



The National Examination
Board in Occupational
Safety and Health

Registered in
England & Wales No. 2698100
A Charitable Company
Charity No. 1010444

Essa Alrajab

King Abdul-Aziz Street, Najran, Saudi Arabia
Cell: 011966591564444, E-mail: essa-alyami@hotmail.com

Objective

To obtain an entry-level position as a Mechanical Engineer with Manufacturing Technologies, allowing me to utilize my education and internship experience while gaining valuable work experience in a team oriented environment.

Education and Training

Northern Kentucky University, Highland Heights, KY

Bachelor of Science, Major: Mechanical and Manufacturing Engineering Technology.

Graduated in May 2016

Overall GPA: 3.65 out of 4.00

Occupational Safety and Health Administration Certification

Quality Management Certification

Lean Six Sigma Green Belt

Project Experience

Pediatric Exoskeleton project, Summer 2015

- Designed exoskeleton using Auto Cad
- Programming 3D printer to create finished product
- Presented final project to peers and instructors

Work Experience

Heating, Ventilation and air conditioning, Highland Heights, Kentucky, Internship, Spring 2016

- * Provided maintenance and preparation of all air handlers and boilers
- * Teamed with engineering department to test design of materials
- * Created a new way using the six sigma principles to analyze and solve problems

Internet Coffee Shop, Najran, Saudi Arabia, Assistant, Summer 2013

Volunteer Experience

Member, Saudi Students Union, Northern Kentucky University, 2015

Student Council, English as a Second Language Institute, Lexington, Kentucky, 2011

Member, International Organization, Eastern Kentucky University, 2010

Awards Received

Saudi Arabian Cultural Mission Scholarship

President List, Fall 2012

Dean's List, Spring 2013, Fall 2013, and Fall 2015

Leadership University, Fall 2014

Language Fluency

Arabic and English



Northern Kentucky University

On the recommendation of the faculty and
with approval of the Regents

Essa Ali Alrajab

is awarded the degree of

Bachelor of Science

Mechanical and Manufacturing Engineering Technology

with all the rights, privileges and honors
as authorized by signatures and the seal of the University.
Given this eighth day of May, One thousand and sixteen.

Chancellor



Norman B. ...
Chancellor



Essa Ali Alrajab
Student



Cincinnati State Technical and Community College
10100 Reading Road
Cincinnati, Ohio 45241

acknowledges that

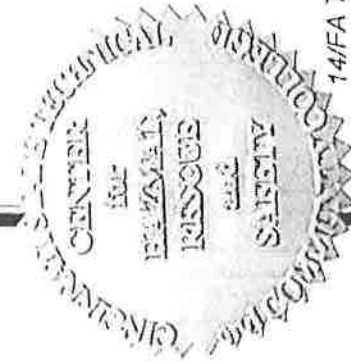
Essa Ali Alrajab

has successfully completed the model training curriculum as prescribed by

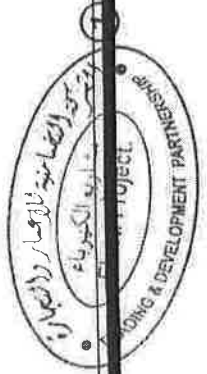
OSHA 30 Hour General Industry
Safety Outreach Workshop
OSHA 29 CFR Parts 1900 through 1910

October 11-19, 2014

Jim Tomblin
Instructor or Program Manager



14/FA TOS 111 FAA





CINCINNATI STATE TECHNICAL AND COMMUNITY COLLEGE

WORKFORCE DEVELOPMENT CENTER

EVENDALE CAMPUS; 10100 READING ROAD, CINCINNATI, OH 45241

OSHA 30 HOUR GENERAL INDUSTRY COURSE SYLLABUS CERTIFICATE, OCT 2014

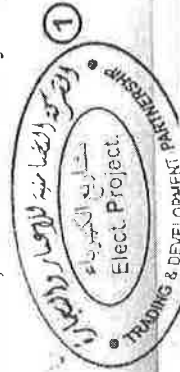
COURSE DESCRIPTION. THIS COURSE IS DESIGNED TO PROVIDE THE BASIC KNOWLEDGE ON HOW TO DEVELOP AND IMPLEMENT AN ORGANIZATION'S OCCUPATIONAL SAFETY PROGRAM. IT IS CRITICAL THAT THE MANAGER OR SAFETY PROFESSIONAL DEVELOP AN EXTENSIVE UNDERSTANDING ON HOW TO FIND, INTERRUPT AND APPLY SAFETY PROCEDURES IN THE WORK PLACE. THE GOAL OF THIS WORKSHOP IS TO PROVIDE THOSE SKILL SETS TO THE STUDENT. THIS COURSE IS DESIGNED FOR THE PROJECT ENGINEER, AN EXPERIENCED PRODUCTION / OPERATIONS SUPERVISOR AND A SAFETY PROFESSIONAL NEW TO THE DISCIPLINE.

- o Introduction to Occupational Safety (OSHA)
- o Hazardous Communication (Chemical Safety)
- o Bloodborne Pathogens Safety
- o Basic Electrical Safety
- o Walking & Working Surfaces
- o Means of Egress & Fire Protection
- o Machine Guarding
- o Hazardous Materials Safety & Storage

James Trombley
OSHA Outreach Trainer
Adjunct Faculty
Cincinnati State Center for HazMat, Rescue & Safety

- o Personal Protective Equipment (PPE)
- o OSHA CFR Overview & Regulations Search
- o Permit Required Confined Space
- o Respiratory Protection
- o Powered Industrial Truck (Forklift) Safety
- o Fall Protection Safety
- o HAZWOPER (HazMat) Response Overview & Emergency Plans
- o Safety & Health Program

Brian G. Canteel
Program Manager
Cincinnati State Center for HazMat, Rescue & Safety
Office: (513) 569-4682



Professional Development Center Lawrence Technological University

Awards this

Certificate of Completion

On the 27th July 2015 to

ESSA ALI ALRAJAB

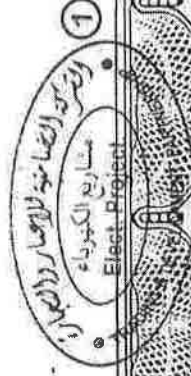
Recognizing the successful completion of

Lean Six Sigma Greenbelt



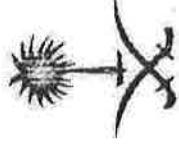
Benjamin B. Benson

Benjamin B. Benson, Ph.D.
Director, Professional Development Center
Lawrence Technological University



بطاقة الهوية الوطنية

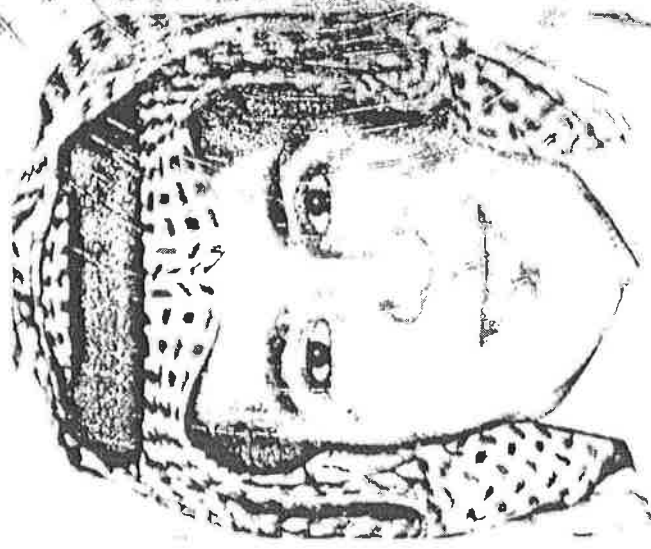
نسخة ٣



المملكة العربية السعودية

وزارة الداخلية

عيسى بن علي بن حسن رجب ال رجب



١٠٨٣١٦١١٤٩

الرقم

١٤٣٩/٠٢/١٢ هـ

تاريخ الانتهاء

نجران

جهة الإصدار

نجران

مكان الميلاد

١٤١٢/٠٢/٠٢ هـ

تاريخ الميلاد



1083161149

تاريخه

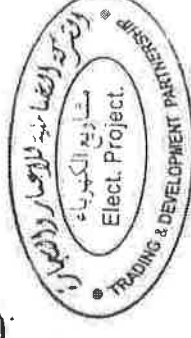
جهة الحفظ

رقم الحفظ

١٤٢٧/٠٥/٢٣ هـ

نجران

١٨٠٩٧٠



Personal Data ▼

Name : Magdy Hussen Ibrahim Ahmed

Nationality : Egyption

Date of Birth : SEPT. 20TH, 1984

Iqama No. : 2279090126

Mobile : 0563860 500

Marital Status : married

Degree	University	Grade	Year	
Higher Institute of Tourism and Hotel Management	South Valley University	77%	2003	
OSHA Certification	High Trade Group Safety and Health	OSHA Construction Industry safety and Health	2015	

Training Attended:

- Basic First Aid & CPR Training
- Petroleum Safe Worker Course
- Construction Safety and Health
- Fire Fighting Basics

Achievements :

- King Abdullah Financial District Project 50 Million Man Hour – 12th of January 2014
- Excelent Safety Performance- 6th April 2014

Duties And Responsibilities

- Demonstrate a strong commitment towards health and safety standards and guidelines, management systems and procedures.
- Provide functional oversight, direction, and guidance of health and safety aspects throughout the organization.
- Monitor, coordinate, measure performance, and report on, all health and safety activities throughout the organization.
- Further develop and implement organization-wide health and safety initiatives including processes and procedures.
- Communicate all health and safety initiatives, processes and procedures throughout the organization to ensure all persons have a common and uniform understanding.
- Monitor compliance of health and safety requirements and handle nonconformance issues according to relevant procedures.
- Roll-out where necessary, initiate and maintain quality input of a health and safety management system which meets the OHSAS 18001 specification.
- Monitor, communicate and apply standards created and/or maintained by external bodies, and integrate within internal health, safety management systems.
- Maintain a working knowledge of health and safety legislation, best practices and industry standards in all jurisdictions in which the company operates.
- Provide guidance on competency based health and safety training for all persons throughout the organization.
- Develop and implement health and safety management strategy and plans, including resource, systems, timescales, financials, to support, contribute to, and integrate within, the organization's annual business plan and long term strategy.
- Research and prepare papers on specific health and safety topics and issues as required.
- Guidance of employer and workers.
- Coordinates all health and safety trainings and programs for the employees and employer.

- Conducts health and safety inspection as part of the committee.
- Maintains or helps in the maintenance of efficient accident record system and coordinates actions taken by supervisor to eliminate accident causes.
- Provides assistance to government agencies in the conduct of safety and health inspection, accident investigation or any related programs.
- Identifies the safety regulations related to the Environmental Management System.
- Determines the monitoring tools to be used to monitor environmental compliance.
- Determines the responsible group to monitor environmental compliance.

Experience ▼

Personal and language Skills ▼

- Working as Safety Supervisor at Saudi Binladin Group in Riyadh for the period from 2009 : 2012 (Princess Noura University.)
- Working as Safety Supervisor at Mimar International in Riyadh for the period from 2012 : 2014 (King Abdullah Financial District)
- Working as Safety Supervisor at Mimar International in Riyadh for the period from 2014 : 2015 (Prince Majed Palace)
- Working as Safety Supervisor at Concrete Division in Makka from 2015 till date (Abraj Kaudai)

- Arabic: Mother Tongue.
- Good spoken and written English.
- Ability to work under stress.
- Analytical skills and ability to prepare statistics.
- Hard working for long periods with the same efficiency.
- Able to meet deadlines.
- Motive, creative and quick thinker.

HEREBY CERTIFIES THAT

Magdy Hossain Ibrhim

*has successfully completed the requirements
of the training course for*

Firefighting Skills Course

offered by Expertpath for Training

Period: 15/07/2017 to 20/07/2017 - Riyadh



11122544

TVTC Certified Number

162925

Certificate Number

Training Manager

Eng. Atef Abdulrahman
Trainer of Occupational Safety
Certified

HEREBY CERTIFIES THAT

Magdy Hossain Ibrhim

*has successfully completed the requirements
of the training course for*

First Aid Course

offered by Expertpath for Training

Period: 20/07/2017 to 20/07/2017 - Riyadh



TVTC Certified Number

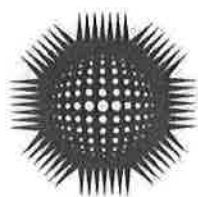
162928

Certificate Number

Subeyo

Training Manager

Eng. Atef Abdulrahman
Eng. Atef Abdulrahman
Trainer of Occupational Safety
Certified



nebosh

Health and safety practical application

A unit of the:

NEBOSH International General Certificate in Occupational Health and Safety

NEBOSH National General Certificate in Occupational Health and Safety

Majdy Ibrahim Ahmed

achieved this unit on

11 May 2017

Sir Bill Callaghan
Chair

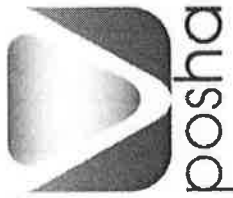
Teresa Budworth
Chief Executive

Master log certificate No: GC3/00376999/882390

SQA Ref: UE47 04



The National Examination
Board in Occupational
Safety and Health
Registered in
England & Wales No. 2698100
A Charitable Company
Charity No. 1010444



PROJECTS OCCUPATIONAL SAFETY HIGH ACADEMY
TRAINING ATTENDANCE CERTIFICATE

PROJECT OCCUPATIONAL SAFETY HIGH ACADEMY CERTIFIES THAT:

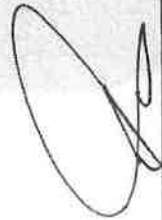
TRAINEE

MAGDY HOSSAIN IBRAHIM

HAS ATTENDED THE TRAINING PROGRAM IN

FIRE FIGHTING BASICS

FOR: ONE DAY _ 4HR _ 23/NOV/2016


Dr. Mohammad Hassan
Training Manager


Eng. Moawiyh Abu Obied
Authorized Trainer



This certificate is issued in

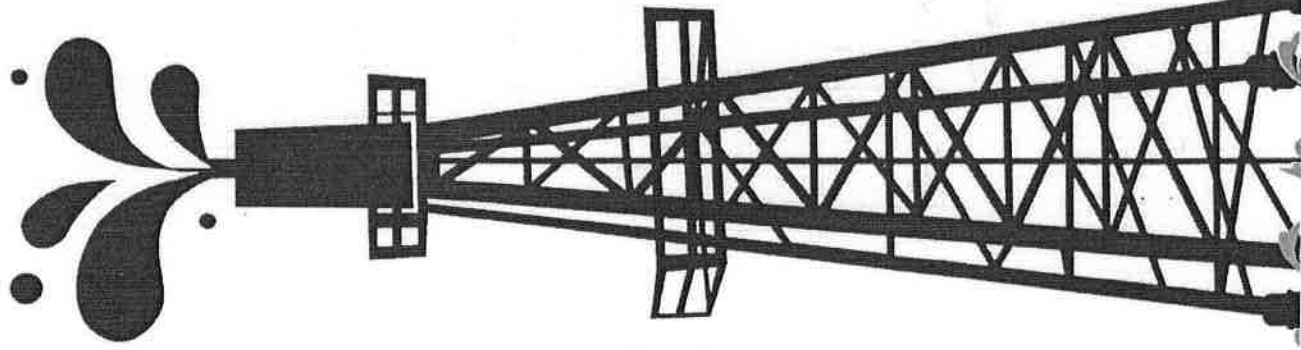
Abrasion or amendment cancels the certificate

www.poshsaudi.com

WED 23 / 11 / 2016

No

1995586300202



American Institute of Oil & Gas Technology

Leading the Way for Quality Petroleum Education

Certificate of Completion

Is awarded to
Magdy Hossain Ibrahim

Certificate Number 2087

For completing the Fundamentals of

PETROLEUM SAFE WORKER

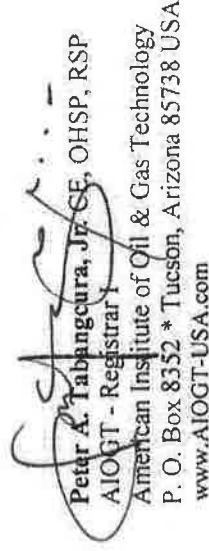
Major Topics included the Importance of Safety in Petroleum,
Oil & Gas Upstream Operations, and
Handling Hazardous Materials / Waste.

Given this 12th day of August 2016 @ Carlton Hotel,

Dammam - Kingdom of Saudi Arabia


Adrian Estes, PhD, RN, RSP
AIOGT - Chairman

American Institute of Oil & Gas Technology
P. O. Box 8352 * Tucson, Arizona 85738 USA
www.AIOGT-USA.com


Peter A. Tabangcura, Jr. CE, OHSP, RSP
AIOGT - Registrar
American Institute of Oil & Gas Technology
P. O. Box 8352 * Tucson, Arizona 85738 USA
www.AIOGT-USA.com





International Board of Environmental and Health Safety



**S-PAGE Training
and Consultancy Center**
Committed to Safety Excellence

Certificate of Attendance *is hereby awarded to*

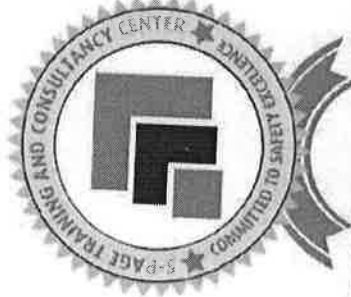
Magdy Hossain Ibrahim

Certificate No: SPAGETC-10085237-16

For successfully attended & Passed the assessment examination
for Petroleum Safe Worker & Basic First Aid-CPR, Course provided by the
American Institute of Oil & Gas Technology (AIOGT-USA) &
Course held on August 12, 2016.

Given this 12th of August 2016 @ Carlton Hotel, Kingdom of Saudi Arabia

Rene M. Mulla II, RN
Rene M. Mulla II, RN
Instructor, AIOGT-USA / SPAGETCC
S-PAGE Training Consultancy



Dexter C. Velonta
Dexter C. Velonta, ME, RSM
Lead Instructor, AIOGT-USA / SPAGETCC
IBOEH-S-RSM Licence #3617





American Institute of Oil & Gas Technology

Leading the Way for Quality Petroleum Education

Certificate of Completion

Is Awarded To

Magdy Hossain Ibrahim

Certificate Number: 3218

Basic First Aid & CPR Training Awareness Course Program

Course Date: August 12, 2016 Date Expire: August 12, 2018

Given this 12th day of August 2016 @ Carlton Hotel - Dammam Kingdom of Saudi Arabia

Jethro B. Fajardo, MD
Resource Speaker

American Institute of Oil & Gas Technology
P. O. Box 8352 * Tucson, Arizona 85738 USA
www.AIOGT-USA.com

Adrian Estes, PhD, RN, RSP
AIOGT - Chairman

American Institute of Oil & Gas Technology
P. O. Box 8352 * Tucson, Arizona 85738 USA
www.AIOGT-USA.com

Hyper Quality Co. For Quality & Safety Systems



Certificate of Attendance

This is to certify that

Magdy Hossain Ibrahim Ahmad

*Has successfully completed an occupational safety and health
training course in*

Risk Assessment and Job Hazard Analysis

Conducted during the period from 23-28 July, 2016

Trainer

Mohammed Saeed

General Manager

Rabab

Course Module No: RA.

Initial Certification Date: 18 May, 2016

Certificate No: 03

Hyper Quality Co. Accreditation From

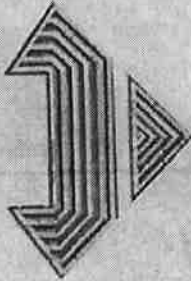


INDUSTRIAL MODERNIZATION CENTRE





OSHAcademy™
Occupational Safety & Health Training



This is to certify that

MAGDY HOSSEN IBRAHIM

*Has successfully completed all academic requirements in this 30-hour OSHAcademy Occupational Safety & Health Course of study presented by OSHAcademy
Authorized Training Provider (ATP), Saudi Binladin Group.*

Construction Safety and Health

Topics covered in this awareness-level training include (30 hours): Introduction to OSHA (2 h); Managing Safety and Health (2 h); OSHA Focus Four Hazards (6 h); PPE (1 h); Life Saving (1 h); Health Hazards in Construction (2 h); Stairways and Ladders (1 h); Concrete and Masonry (1 h); Confined Space Entry (1 h); Cranes, Derricks, Hoists, Elevators, and Conveyors (3 h); Excavations (2 h); Fire Protection and Prevention (1 h); Powered Industrial Vehicles (1 h); Scaffolds (3 h); Hand- and Power-Tools (1 h); and Welding and Cutting (2 h).


Steven J. Geigle, M.A., CET, CSHM
Training Director, OSHAcademy, OSH Training
CET #: 28-362, CSHM #: 1203

Certificates can be validated through the
OSHAcademy website.

www.oshatrain.org/atp-validate/



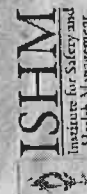
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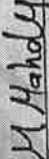
67268

Issue Date

Student #

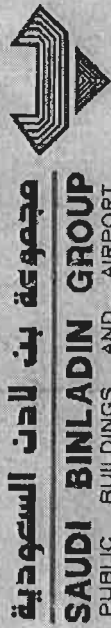
Recognized by





Mohamed Mandy
Ph.D. Eng. M.ASCE
Technical and Training Manager
Saudi Binladin Group
Kingdom of Saudi Arabia
ATP #: 201208012
The content of this training conforms with U.S.
Department of Labor (OSHA) training standards and ANSI
Z490.1-2009, Criteria for Accepted Practices in Safety,
Health, and Environmental Training.

6th, April, 2014



CERTIFICATE FOR EXCELLENT SAFETY PERFORMANCE

Presented to

Majdy Hossen
(Mimar Safety Officer)

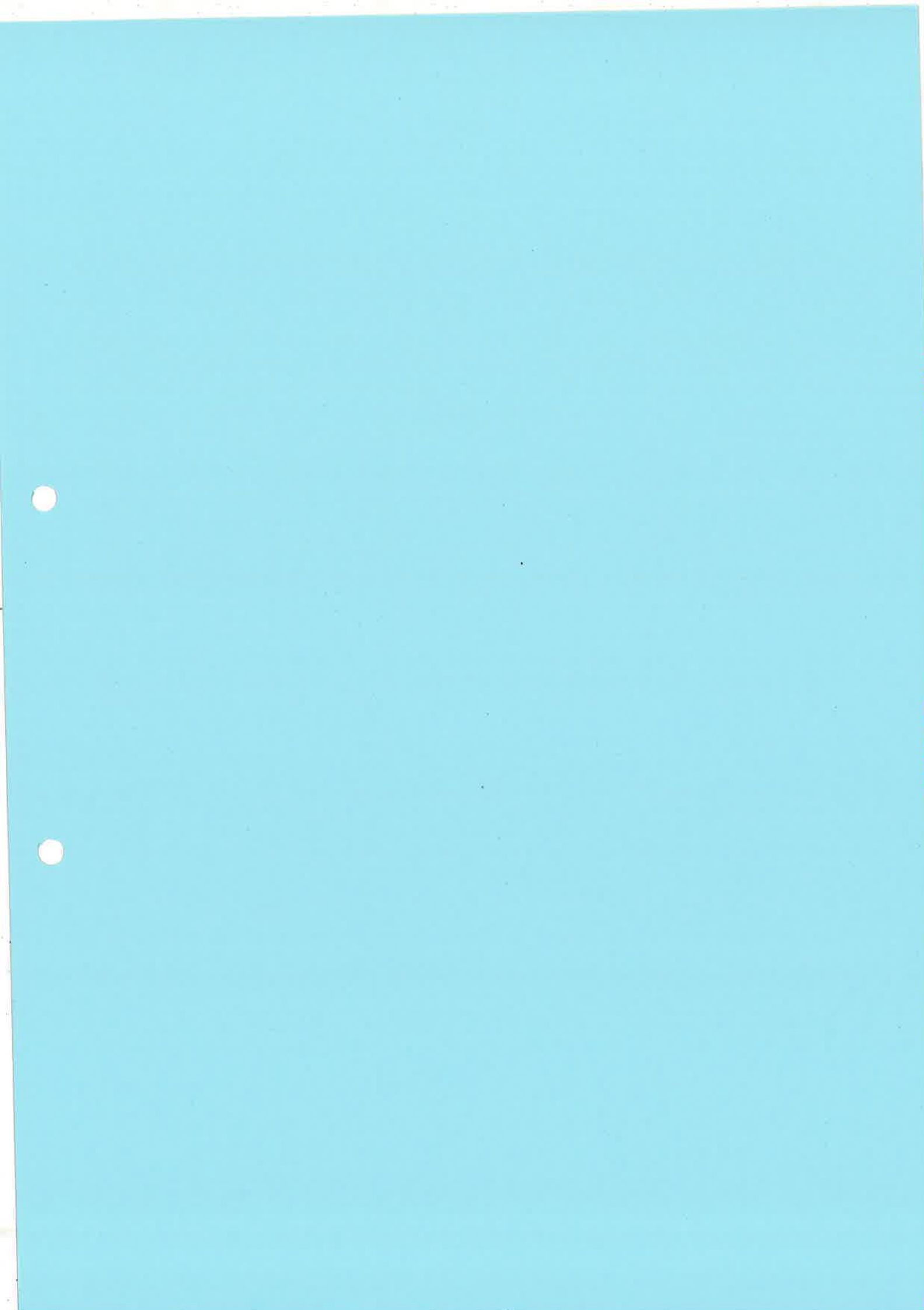
For his hard working, sincerity and commitment to maintain High HSE standards in zone-3 King Abdullah Financial District – Riyadh (KSA)

Parcel Manager – 5.06
Engr. Hani Abu Rashida

ZONE - 3, HSE Manager
Santhosh Abraham

KAFD HSE Manager
Dr. Mahesh Pillai

C&A Construction Manager Zone-3
Engr. Maher Jawadat Sawalha



TUV CERTIFICATES



OPERATOR ASSESSMENT CERTIFICATE



قياس للفحص والاختبار Kias inspection And Testing

معتمدة من الدوائر الحكومية

Approved by Government Depts.

CERTIFICATE # O8226/17

JOB # SA08-13

Mr. MUSTAFIZUR RAHMAN

Holder of residence Visa # 2142440235, Nationality: Bangladesh.

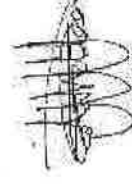
الشركة التضامنيه للاعمار والتجاره . م/س

Has been subjected to practical test as a:

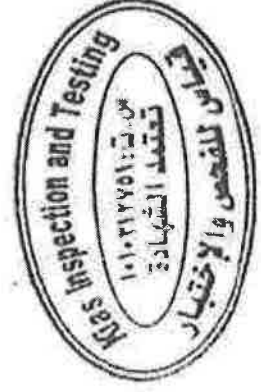
Which include: -

- Safe operation of EXAVATOR,
 - Recommended loading operations' signals.
 - Techniques to avoid tip over.
- He was found capable of operating this equipment

(Certificate is valid for one year & expires on 23/08/2018)



Eng. Ali Salah Eldeen.
Test Engineer
تلفون +96635311110



Date: 23/08/2017
Telefax +966353111310 E-Mail info@kiasafety.ae



OPERATOR ASSESSMENT CERTIFICATE



قياس للفحص والاختبار

معتمدة من الدوائر الحكومية

Approved by Government Depts.

JOB # SA08-13

CERTIFICATE # O8225/17

Mr. SHAKIR RAHMAN SAIF UR RAHMAN

Holder of residence Visa # 2370223006, Nationality: PAKISTAN.

الشركة التضامنية للآعمار والتجارة م/س

Has been subjected to practical test as a:

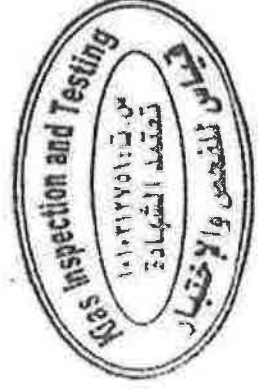
Which include: -

- Safe operation of EXAVATOR,
 - Recommended loading operations' signals.
 - Techniques to avoid tip over.
- He was found capable of operating this equipment

(Certificate is valid for one year & expires on 23/08/2018)

Handwritten signature of Eng. Ali Salah Eldeen

Eng. Ali Salah Eldeen.
Test Engineer
+96635311110 تلفون



Date: 23/08/2017

Telefax +96635311310 E-Mail info@kiassafety.ac



OPERATOR ASSESSMENT CERTIFICATE



قياس للأفحص واختبار كياس

Approved by Government Depts.

JOB # SA07-13

This is to certify that:

Mr. ZAR SHAD ALI

Holder of residence Visa # 2370220754, Nationality: PAKISTAN.

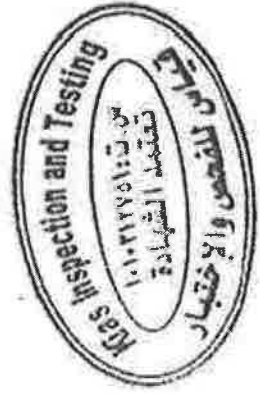
الشركة التضامنية للأعمار والتجارة م/س.

Has been subjected to practical assessment for the operation of:

Which include: -

- Safe lifting, lowering, derricking & slewing
 - Crane signals,
 - Care of crane in-use.
- He was found capable of operating this equipment.

(Certificate is valid for one year & expires on 23/08/2018)



Date: 23/08/2017

Telefax +96635311310 E-Mail info@kiassafety.ae

Eng. Ali Salah Eldeen .
Test Engineer
تلفون +96635311110

Articulating Boom Truck

معتمدة من الدوائر الحكومية

CERTIFICATE # OP8224/17



OPERATOR ASSESSMENT CERTIFICATE



Kias inspection And Testing والاختبار للفحص وقياس

Approved by Government Depts.

معتمدة من الدوائر الحكومية

JOB # SA08-13

CERTIFICATE # O8223/17

Mr. RIAZ - - GUL AMIR

Holder of residence Visa # 2149366995, Nationality: PAKISTAN.

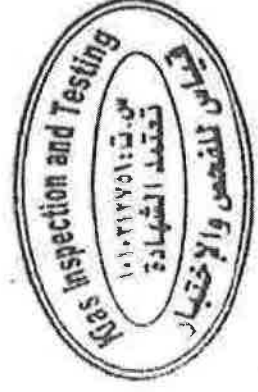
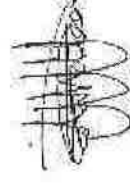
الشركة التضامنيه للاعمار والتجاره . م/س

Has been subjected to practical test as a:

Which include: -

- Safe operation of EXAVATOR
 - Recommended loading operations' signals.
 - Techniques to avoid tip over.
- He was found capable of operating this equipment

(Certificate is valid for one year & expires on 23/08/2018)



Eng. Ali Salah Eldeen.
Test Engineer
+96635311110 تلفون

Date: 23/08/2017

Telefax +96635311310 E-Mail info@kiassafety.ae



OPERATOR ASSESSMENT CERTIFICATE



قياس للفحص والاختبار Kias inspection And Testing

Approved by Government Depts.

JOB # SA07-13

This is to certify that:

Mr. KHAIR UL AMIN MUHAMMAD

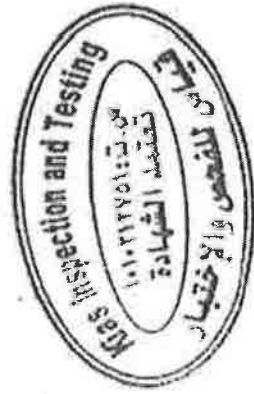
Holder of residence Visa # 2368127714, Nationality: PAKISTAN.

الشركة التضامنية للأعمار والتجارة م/س.

Has been subjected to practical assessment for the operation of:
Which include:-

- Safe lifting, lowering, derricking & slewing
 - Crane signals,
 - Care of crane in-use.
- He was found capable of operating this equipment.

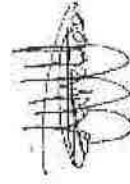
(Certificate is valid for one year & expires on 23/08/2018)



Date: 23/08/2017

Telefax +96635311310 E-Mail info@kiasafety.ae

Articulating Boom Truck



Eng. Ali Salah Eldeen .
Test Engineer
تلفون +96635311110

معتمدة من الدوائر الحكومية

CERTIFICATE # OP8222/17



OPERATOR ASSESSMENT CERTIFICATE



قياس للفحص واختبار Kias inspection And Testing

Approved by Government Depts.

JOB # SA07-13

This is to certify that:

Mr. SURESH KUMAR

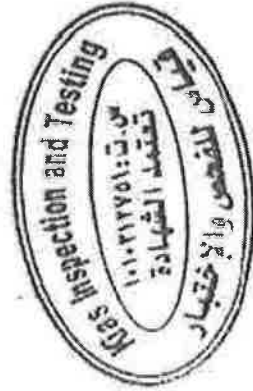
Holder of residence Visa # 2431239553 Nationality: India .

الشركة التضامنية للأعمار والتجارة م/س.

Has been subjected to practical assessment for the operation of:
Which include:-

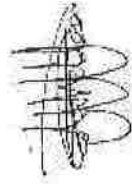
- Safe lifting, lowering, derricking & slewing
 - Crane signals,
 - Care of crane in-use.
- He was found capable of operating this equipment.

(Certificate is valid for one year & expires on 23/08/2018)



Date: 23/08/2017

Telefax +96635311310 E-Mail info@kiasafety.ae



Eng. Ali Salah Eldeen .
Test Engineer
تلفون +96635311110

Articulating Boom Truck

معتمدة من الدوائر الحكومية

CERTIFICATE # OP8221/17

قياس KIAS

INSPECTION AND TESTING

للفحص والاختبار

Approved by Gov. Departments in Saudi Arabia & U.A.E.

معتمدة من الجهات الحكومية بالمملكة العربية السعودية والامارات

CERTIFICATE OF TEST AND EXAMINATION OF CRANE

Certificate No. EQ8220/17
Job No. K/SA/08/13

This Form is based on: The standard international form of certificate approved by the International Labour Organisation for the test and examination of lifting machinery and gear used in the loading and unloading of ships. * (U.K.) Lifting operations & Lifting Equipment Regulations 1998 (regulation (9) & BS 7121-2:2003

(1) Name and address of owner of crane	M/s. الشركة التضامنية للأعمار والتجارة P.O. Box: Riyadh .KSA			
(2) Name and address of maker of crane	Articulating boom truck - Mercedes			
(3) Location of equipment	RUH, KSA.			
(4) Type of crane and nature of power (e.g. scotch derrick-manual, Tower derrick- electric, Rail-mounted tower- electric, etc.)	Truck mounted, Hydraulics , telescopic boom, diesel engine			
(5) Date & place of manufacture of crane	N/A			
(6) Maker's serial No. & Owner's distinguishing mark	Reg.# 1960 HLA - Blue color			
(7) Make & type of automatic safe load indicator, if required	N/R			
(8) Make & type of derricking interlock, if required	N/A			
(9) Type of test & date of previous test report seen	Not seen			
(10) Safe working load (SWL) or loads In the case of a crane with a variable radius (including a crane with a derricking jib or with interchangeable jibs of different lengths) the (SWL) at various radii of the jib. Jibs trolley or crab must be given. Test loads at various radii should be given in column (iii) & in the case of a (SWL) which has been calculated without the application of a test load "NIL" should be entered in that column. Wire rope . reeved to falls	(i) Length of jib (m)	(ii) Radius (m.)	(iii) Proof load (tonnes)	(iv) Safe working load (tonnes)
	10.0	4.00 5.00	NIL 7.50	1.00 6.00
(11) In the case of a crane with derricking jib, the maximum radius at which the jib or jibs may be worked	10.0			
(12) Defects noted and/or alterations or repairs required before the crane is put into service	NONE			

(13) Name & address of public service, association, company,
firm or person making the test & examination

{ Eng. Ali Salah Eldeen }

(14) Position of signatory of public service, association,
company or firm named above

{ Test Engineer }

I Certify that on behalf of the firm, company. The above machinery, together with its accessory gear, was tested by the competent person said in (13) above in the manner described in the relevant standards, that a careful examination of the said machinery & gear by the competent person, after the test showed that it had withstood the proof load without permanent deformation & that it is safe for its intended use.

The crane should be re-tested in case of major repair or modification.

Note: This certificate shall not be reproduced (except in full) without the approval of KIAS SAFETY CONSULTANCY



Issue Date: 23/07/2017
Expiry Date: 23/07/2018

Name: Eng. Ali salah Eldeen.
Designation: Test Engineer

K/F13-11 Rev.4

لقد تم اعتمادنا طبقاً للمواصفة العالمية رقم: ISO /IEC 17020

فاكس ٠٣٥٣١١٣١٠ مكتب الرياض شارع الامام سعود حي الازدهار مخرج ٩ ، تلفون ٠١١٢٢٩٢١٤٠

بريد ٩٧١٤٢٧١٢٢٨٢ +97142712282 - فاكس ٩٧١٤٢٧٢٦٦٧٦ +97142726676 مكتب دبي ، تلفون

ali@kiassafety.ac

قياس KIAS

INSPECTION AND TESTING

للفحص والاختبار

Approved by Gov. Departments in Saudi Arabia & U.A.E.

معتمدة من الجهات الحكومية بالملكة العربية السعودية والامارات

CERTIFICATE OF TEST AND EXAMINATION OF CRANE

Certificate No. EQ8219/17

Job No. K/SA/08/13

This Form is based on: The standard international form of certificate approved by the International Labour Organisation for the test and examination of lifting machinery and gear used in the loading and unloading of ships. * (U.K.) Lifting operations & Lifting Equipment Regulations 1998 (regulation (9) & BS 7121-2:2003

(1) Name and address of owner of crane	M/s. الشركة التضامنية للاعمار والتجارة P.O. Box: Riyadh .KSA			
(2) Name and address of maker of crane	Articulating boom truck - Mercedes			
(3) Location of equipment	RUH, KSA.			
(4) Type of crane and nature of power (e.g. scotch derrick-manual, Tower derrick- electric, Rail-mounted tower- electric, etc.)	Truck mounted, Hydraulics , telescopic boom, diesel engine			
(5) Date & place of manufacture of crane	2007			
(6) Maker's serial No. & Owner's distinguishing mark	Reg.# 7908 JVA - Orange color			
(7) Make & type of automatic safe load indicator, if required	N/R			
(8) Make & type of derricking interlock, if required	N/A			
(9) Type of test & date of previous test report seen	Not seen			
(10) Safe working load (SWL) or loads In the case of a crane with a variable radius (including a crane with a derricking jib or with interchangeable jibs of different lengths) the (SWL) at various radii of the jib, Jibs trolley or crab must be given. Test loads at various radii should be given In column (iii) & in the case of a (SWL) which has been calculated without the application of a test load "NIL" should be entered in that column. Wire rope . reeved to falls	(i) Length of jib (m)	(ii) Radius (m.)	(iii) Proof load (tonnes)	(iv) Safe working load (tonnes)
	10.0	4.00 5.00	NIL 7.50	1.00 6.00
(11) In the case of a crane with derricking jib, the maximum radius at which the jib or jibs may be worked	10.0			
(12) Defects noted and/or alterations or repairs required before the crane is put into service	NONE			

(13) Name & address of public service, association, company,
firm or person making the test & examination

{ Eng. Ali Salah Eldeen }

(14) Position of signatory of public service, association,
company or firm named above

{ Test Engineer }

I Certify that on behalf of the firm, company. The above machinery, together with its accessory gear, was tested by the competent person said in (13) above in the manner described in the relevant standards, that a careful examination of the said machinery & gear by the competent person, after the test showed that it had withstood the proof load without permanent deformation & that it is safe for its intended use.

The crane should be re-tested in case of major repair or modification.

Note: This certificate shall not be reproduced (except in full) without the approval of KIAS SAFETY CONSULTANCY



Issue Date: 23/07/2017
Expiry Date: 23/07/2018

Name: Eng. Ali salah Eldeen.
Designation: Test Engineer

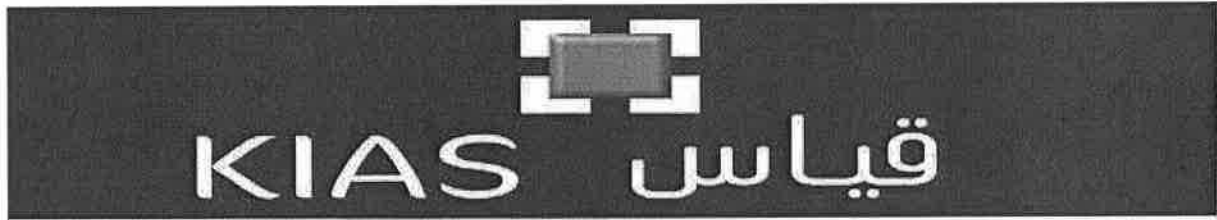
K/F13-11 Rev.4

We are approved under ISO /IEC 17020

فاكس ٠٣٥٣١١٣١٠ مكتب الرياض شارع الامام سعود حي الازدهار مخرج ٩ ، تلفون ٠١١٢٢٩٢١٤٠ -

بريد ٩٧١٤٢٧١٢٢٨٢ + - فاكس ٩٧١٤٢٧٢٦٦٧٦ + مكتب دبي ، تلفون

ali@kiassafety.ac



INSPECTION AND TESTING للفحص والاختبار

Registered in Gov. Departments in Saudi Arabia & U.A.E.

ممسجلة لدى الجهات الحكومية بالمملكة العربية السعودية والامارات

TEST CERTIFICATE FOR EARTHMOVING EQUIPMENT

Certificate No. EQ8218/17

Job No. SA08-13

This Form is based on: The standard international form of certificate approved by the International Labour Organisation for the test and examination of lifting machinery and gear used in the loading and unloading of ships.

Also in accordance with: * Ministerial Order No.32 For Year 1982 * Dubai Municipality EPSS Local order # 61/1991 * (U.K.) Factories Act 1961: Docks Regulations 1998 Regulation 9 * Shipbuilding and ship repairing regulations 1960 * The construction (Lifting Operations) Regulations 1998 * BS 7121:2003

(1) Name and address of owner of Equipment	M/S. الشركة التضامنية للأعمار والتجارة Riyadh - KSA			
(2) Name and address of maker of Equipment	EXAVATOR - HYUNDAI			
(3) Location of test	RUH , KSA.			
(4) Type of Equipment and nature of power	Type: R220LC-7 , diesel engine operated , hydraulic, attached with bucket			
(5) Date & place of manufacture of Equipment	N/A			
(6) Identification: a) Maker's serial No.	N603D01816			
b) Owner's distinguishing mark or No.	-----			
(7) Make & type of automatic safe load indicator, if required	N/A			
(8) Make & type of derricking interlock, if required	N/R			
(9) Date of last previous test report seen	Not Seen			
(10) Safe working load (SWL) or loads	(i) Length of jib (m)	(ii) Radius (m.)	(iii) Proof load (Kilo grams)	(iv) Safe working load (Kilo grams)
In the case of a crane with a variable radius (including a crane with a derricking jib or with interchangeable jibs of different lengths) the (SWL) at various radii of the jib, Jibs trolley or crab must be given. Test loads at various radii should be given In column (iii) & in the case of a (SWL) which has been calculated without the application of a test load "NIL" should be entered in that column.	---	---	6250 kg	5000 Kg
(11) In the case of a crane with derricking jib, the maximum radius at which the jib or jibs may be worked	NIL			
(12) Defects noted and/or alterations or repairs required before the Equipment is put into service	NONE			

(13) Name & address of public service, association, company, firm or person making the test & examination

{ Eng. Ali Salah Eldeen }

(14) Position of signatory of public service, association, company or firm named above

{ Test Engineer }

I certify that on behalf of the firm, company. The above machinery, together with its accessory gear, was tested by the competent person said in (13) above in the manner described in the relevant standards, that a careful examination of the said machinery & gear by the competent person, after the test showed that it had withstood the proof load without permanent deformation & that it is safe for its intended use.

Issue Date:	23/08/2017
Expiry Date	23/08/2018



Signature	Eng. Ali Salah Eldeen
Designation	Test Engineer

K/F13-10Rev.3

لقد تم اعتمادنا طبقا للمواصفة العالمية رقم: ISO /IEC | 17020

مكتب الرياض شارع الامام سعود حي الازدهار مخرج ٩ : تلفون ٠١١٢٢٩٢١٤٠ - فاكس ٠٣٥٣١١٣١٠

مكتب دبي : تلفون ٩٧١٤٢٧٦٦٦٧ - فاكس ٩٧١٤٢٧١٢٢٨٢ - بريد ali@kiassafety.ae

TEST CERTIFICATE FOR EARTHMOVING EQUIPMENT

Certificate No. EQ8217/17
Job No. SA08-13

This Form is based on: The standard international form of certificate approved by the International Labour Organisation for the test and examination of lifting machinery and gear used in the loading and unloading of ships.

Also in accordance with: * Ministerial Order No.32 For Year 1982 * Dubai Municipality EPSS Local order # 61/1991 * (U.K.) Factories Act 1961: Docks Regulations 1998 Regulation 9 * Shipbuilding and ship repairing regulations 1960 * The construction (Lifting Operations) Regulations 1998 * BS 7121:2003

(1) Name and address of owner of Equipment	M/S. الشركة التضامنية للأعمار والتجارة Riyadh - KSA			
(2) Name and address of maker of Equipment	EXAVATOR - SUMITOMO			
(3) Location of test	RUH , KSA.			
(4) Type of Equipment and nature of power	Type: SH210LC-5 , diesel engine operated , hydraulic, attached with bucket			
(5) Date & place of manufacture of Equipment	Made In Japan			
(6) Identification: a) Maker's serial No.	210L5-1307			
b) Owner's distinguishing mark or No.	Yellow color			
(7) Make & type of automatic safe load indicator, if required	N/A			
(8) Make & type of derricking interlock, if required	N/R			
(9) Date of last previous test report seen	Not Seen			
(10) Safe working load (SWL) or loads	(i) Length of jib (m)	(ii) Radius (m.)	(iii) Proof load (Kilo grams)	(iv) Safe working load (Kilo grams)
In the case of a crane with a variable radius (including a crane with a derricking jib or with interchangeable jibs of different lengths) the (SWL) at various radii of the jib. Jibs trolley or crab must be given. Test loads at various radii should be given In column (iii) & in the case of a (SWL) which has been calculated without the application of a test load "NIL" should be entered in that column.	---	---	6250 kg	5000 Kg
(11) In the case of a crane with derricking jib, the maximum radius at which the jib or jibs may be worked	NIL			
(12) Defects noted and/or alterations or repairs required before the Equipment is put into service	NONE			

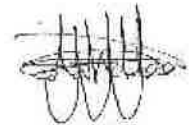
(13) Name & address of public service, association, company, firm or person making the test & examination

{ Eng. Ali Salah Eldeen }

(14) Position of signatory of public service, association, company or firm named above

{ Test Engineer }

I certify that on behalf of the firm, company. The above machinery, together with its accessory gear, was tested by the competent person said in (13) above in the manner described in the relevant standards, that a careful examination of the said machinery & gear by the competent person, after the test showed that it had withstood the proof load without permanent deformation & that it is safe for its intended use.



Issue Date:	23/08/2017
Expiry Date	23/08/2018



Signature	Eng. Ali Salah Eldeen
Designation	Test Engineer

TEST CERTIFICATE FOR EARTHMOVING EQUIPMENT

Certificate No. EQ8216/17
Job No. SA08-13

This Form is based on: The standard international form of certificate approved by the International Labour Organisation for the test and examination of lifting machinery and gear used in the loading and unloading of ships.

Also in accordance with: * Ministerial Order No.32 For Year 1982 * Dubai Municipality EPSS Local order # 61/1991 * (U.K.) Factories Act 1961: Docks Regulations 1998 Regulation 9 * Shipbuilding and ship repairing regulations 1960 * The construction (Lifting Operations) Regulations 1998 * BS 7121:2003

(1) Name and address of owner of Equipment	M/S. الشركة التضامنية للاعمار والتجارة Riyadh - KSA			
(2) Name and address of maker of Equipment	EXAVATOR - SUMITOMO			
(3) Location of test	ALMahmadeyyah district, RUH , KSA.			
(4) Type of Equipment and nature of power	Type: SH210LC-5 , diesel engine operated , hydraulic, attached with bucket			
(5) Date & place of manufacture of Equipment	Made In Japan			
(6) Identification: a) Maker's serial No.	*SMT210L5T00BH2200*			
b) Owner's distinguishing mark or No.	Yellow color			
(7) Make & type of automatic safe load indicator, if required	N/A			
(8) Make & type of derricking interlock, if required	N/R			
(9) Date of last previous test report seen	Not Seen			
(10) Safe working load (SWL) or loads	(i) Length of jib (m)	(ii) Radius (m.)	(iii) Proof load (Kilo grams)	(iv) Safe working load (Kilo grams)
In the case of a crane with a variable radius (including a crane with a derricking jib or with interchangeable jibs of different lengths) the (SWL) at various radii of the jib, Jibs trolley or crab must be given. Test loads at various radii should be given in column (iii) & in the case of a (SWL) which has been calculated without the application of a test load "NIL" should be entered in that column.	---	---	6250 kg	5000 Kg
(11) In the case of a crane with derricking jib, the maximum radius at which the jib or jibs may be worked	NIL			
(12) Defects noted and/or alterations or repairs required before the Equipment is put into service	NONE			

(13) Name & address of public service, association, company, firm or person making the test & examination

(14) Position of signatory of public service, association, company or firm named above

{ Eng. Ali Salah Eldeen }
{ Test Engineer }

I certify that on behalf of the firm, company, The above machinery, together with its accessory gear, was tested by the competent person said in (13) above in the manner described in the relevant standards, that a careful examination of the said machinery & gear by the competent person, after the test showed that it had withstood the proof load without permanent deformation & that it is safe for its intended use.

Issue Date: 23/08/2017
Expiry Date: 23/08/2018



Signature: Eng. Ali Salah Eldeen
Designation: Test Engineer

RISK ASSESSMENT

/RISK ASSESSMENT AND ANALYSIS/ تقييم المخاطر									
DEPARTMENT/AREA: Replacement of 380KV Cables and Termination in SS 9002 at PP8									
DATE: 01 Aug 2017									
NEXT REVIEW DATE: 01 Aug 2018									
APPROVED BY MANAGER/SUPERVISOR (مُصادَق من قبل):									
Signature (التوقيع)									
HAZARD IDENTIFICATION/ تحديد المخاطر									
RISK ASSESSMENT/ تقييم المخاطر									
CONTROL/ وسائل التحكم									
Risks Issue (Possible incident) (What can go wrong) (Accident/ill health to persons, fire or property loss)									
Workplace/ Activity/Process/Equipment/Material (المكان/النشاط/العملية/المواد)									
Item #									
UNDERGROUND GENERAL WORKS									
RA Number (رقم تقييم المخاطر): 01									
RA TEAM (فريق التقييم):									
1. Eng. Karim Ramadan									
2. Eng. Moustafa Zidan									
3. Eng. Jibby cayabyab									
ACTION PLAN/ خطة العمل لتنفيذ العمل									
Follow up by Whom (name) & By When (date) / متابعة/التاريخ									
Controls Implemented Yes/No/ هل تم تنفيذها/مؤلا									
Additional signages									
Ventilation, watchman required									
Training awareness									
Third party certificate / TUV for equipment and operator									
Support for form work to be checked prior to pouring									
Trained signal man to be assigned for concrete pump									
Road Work									
Trained signalman to be provided									
Trained flagman & signalman to be provided									
Proper ppe should be use									
Worker should wear hand graves									
Electrical work									
Incompetent operator and working with out flagman									
Incompetent operator and working with out flagman									
High temperature of asphalt									
Wire mesh installation and breaks									

Electrical work

/RISK ASSESSMENT AND ANALYSIS/ تقييم المخاطر /									
DEPARTMENT/AREA: 01 Aug 2017									
DATE: 01 Aug 2017									
NEXT REVIEW DATE: 01 Aug 2018									
APPROVED BY MANAGER/SUPERVISOR (توقيع مدير/مراقب):									
Signature (التوقيع)									
UNDERGROUND GENERAL WORKS									
RA Number (رقم تقييم المخاطر): 01									
RA TEAM (الفرق) (التقييم):									
1. Eng. Karim Ramadan									
2. Eng. Moustafa Zidan									
3. Eng. Jibby cayabyab									
HAZARD IDENTIFICATION/ تحديد المخاطر									
Risks Issue (Possible incident) [What can go wrong] (أحداث/الحوادث المحتملة) [ماذا يمكن أن يحدث؟]									
Hazards/ المخاطر									
Workplace/ Activity/Process/Equipment/Material (العمل/المعدات/الحوادث)									
Item #									
CONTROL/التحكم									
Existing Controls / وسائل التحكم الموجودة									
Consequence / النتيجة									
Likelihood / الاحتمالية									
Risk Ranking									
ACTION PLAN/ خطة العمل									
Follow up by Whom (Name) & By When (date) / متابعة/التتبع (الاسم) و متى (التاريخ)									
Controls Implemented / تم تنفيذ/تتبع									
Competent scaffolder must be provided									
Proper use of PPE to be provided									
Training on working at heights for all workers. Proper barricades and warning notice to be provided below the working area.									
PPE shall be provided as per MSDS's recommendation, as a minimum.									
Intermittent rest breaks to be implemented									
Provision of fire extinguishers at working areas.									
Disposal of excess materials shall be as per approved procedure.									
Erection of Access Scaffolds									
1. improper use of hand and power tools									
Body part injury and electrocution by damaged hand tools and power equipment									
2. working at elevated area									
Fall from heights (personnel and materials & tools)									
Health diseases									
3. Health Hazards									
4. Thermal/Heat Stress									
5. storage for painting materials and nearby activities									
Fire									
Proper storage of paint materials to be implemented.									

/RISK ASSESSMENT AND ANALYSIS/ تقييم المخاطر									
/RISK ASSESSMENT AND ANALYSIS/ تقييم المخاطر									
DEPARTMENT/AREA (المنطقة): Replacement of 380kV Cables and Termination in SS 9002 at PP8									
DATE (التاريخ): 01 Aug 2017									
NEXT REVIEW DATE (تاريخ المراجعة القادمة): 01 Aug 2018									
APPROVED BY MANAGER/SUPERVISOR (مُعتمد من قبل):									
Signature (التوقيع)									
HAZARD IDENTIFICATION/ تحديد المخاطر									
RISK ASSESSMENT									
CONTROL MEASURES/ وسائل التحكم									
HAZARDS/ الأخطار									
Risks Issue (Possible Incident) [What can go wrong] (Accident)/ health to persons, fire or property loss									
Workplace/ Activity/Process/Equipment/Material/أماكن العمل/العمليات/المعدات/الآلات									
Item #									
UNDERGROUND GENERAL WORKS									
1. Eng. Karim Ramadan									
2. Eng. Moustafa Zidan									
3. Eng. Jibby cayabyab									
kept. No excess materials shall be left unattended and exposed to extreme hot weather.									

الموقع /المنفعة العامة/المعد:

RA Number(المخاطر تقييم):01

DATE(التاريخ): 1 Aug 2017

NEXT REVIEW DATE (تاريخ المراجعة القادمة): 1 Aug 2018

APPROVED BY MANAGER/SUPERVISOR(اعتمد من قبل):

Signature (التوقيع)

High Voltage Test For Electrical Cable

RA TEAM(NAMES) (التقديم):

1.Eng. Karim Ramadan

2.Eng. Moustafa Zidan

3.Eng. Jibby Cayabyab

HAZARD IDENTIFICATION/تحديد الخطر

Item #	Workplace/Activity/Process/Equipment/Material موقع العمل/نوعية العمل/المعدات/المواد	Hazards/الأخطار	Risks Issue (Possible incident) [What can go wrong] (Accident/ill health to persons, fire or property loss)	تقييم المخاطر	تدابير التخفيف	Item #
1	Like liho od/ الإحت طالية	C o ns eq ue nc e /	Existing Controls / وسائل التحكم الموجودة	Follow up by Whom (name) & By When (date)/ التجربة المستعجلة بالتفتيش/إزالة	(Improve existing controls / implement new controls)/ وسائل التحكم والسيطرة / الإضافية	2
2	Like liho od/ الإحت طالية	C o ns eq ue nc e /	Existing Controls / وسائل التحكم الموجودة	Follow up by Whom (name) & By When (date)/ التجربة المستعجلة بالتفتيش/إزالة	(Improve existing controls / implement new controls)/ وسائل التحكم والسيطرة / الإضافية	3

HIGH VOLTAGE TEST

[illegible]

[illegible]

/RISK ASSESSMENT AND ANALYSIS/ تقييم المخاطر												
DEPARTMENT/AREA: PP8			WORKPLACE/TASK/ACTIVITY/PROCESS NAME: 01: إزالة تقييم المخاطر (RA Number)									
DATE: 11 Aug 2017			RA TEAM(NAMES): (الاسماء فريق التقييم):									
NEXT REVIEW/DATE: 1 Aug 2018			1.Eng. Karim Ramadan									
APPROVED BY MANAGER/SUPERVISOR (التوقيع):			2.Eng. Moustafa Zidan									
Signature (التوقيع)			3.Eng. Jibby Cayabyab									
ACTION PLAN/ خطة العمل لتقليل المخاطر			RISK ASSESSMENT تقييم المخاطر			CONTROL وسائل التحكم			HAZARD IDENTIFICATION/ تحديد الخطر			
Likelihood / الإحتمالية	Consequence / الأضرار	Controls Implemented / هل تم تنفيذ التدابير	Follow up by Whom (name) & By When (date) / الجهة / المتابعة / التاريخ	Risk Ranking / تصنيف الخطر	Likelihood / الإحتمالية	Consequence / الأضرار	Existing Controls / وسائل التحكم الموجودة	Risks Issue (Possible incident) [What can go wrong] (Accident/ill health to persons, fire or property loss)	Hazards / الأخطار	Workplace/ Activity/Process/Equipment/Material / الموقع / العملية / المادة	Item #	
								- Manual handling - Constant communication for high voltage test for before and after test (engineer,supervisor,and worker)				
INSTALLATION AND TERMINATION (FIBER OPTIC AND CABLE WORK)												
2	1	2	Yes	Site Engr., & Hse	Barrication and signage to be provided around lifting area	12	3	4	Material to be secured by rope	Worker hit from the cable tray	Drop tray during installation work	
2	1	2	Yes	Site Engr., & Hse	Training to be provided	12	3	4	Ware gloves and trim edge	Injured by sharp edge	Improper installation of Tray	
2	1	2	Yes	Site Engr., & Hse	Training to be provided	12	3	4	Ware gloves and watch rollers Electrician should be Competent	Injured fingers at cable rollers and electrocution	Improper cable/wiring and termination	Cabling/wiring work, including termination work
2	1	2	Yes	Site Engr., & Hse	Barrication and signage to be provided around lifting area	12	3	4	Well rigging study/ operator / rigger must have TUV.	Falling and damage equipment	Improper lifting of transformer	Transformer erection work
2	1	2	Yes	Site Engr., & Hse	Barrication and signage to be provided around lifting area	12	3	4	Well rigging study/ operator / rigger must have TUV.	Falling and damage equipment	Improper lifting of switch gear	Switchgear installation work
2	1	2	Yes	Site Engr., & Hse	Barrication and signage to be provided around lifting area	12	3	4	Precaution and to be watched	Falling down and damage equipment/injured worker	Improper panel installation	Local panel installation work
2	1	2	Yes	Site Engr., & Hse	Barrication and signage to be provided around work area	12	3	4	Protection for over head work, proper use of PPE	Drop tools and materials, electrocution	Electrical installation in elevated area	Lighting work
2	1	2	Yes	Site Engr., & Hse		12	3	4	Proper protection (Fire extinguisher, apron, and PPE) Competent worker	Burn worker	Injured during CAD Weld	Earthing work
2	1	2	Yes	Site Engr., & Hse	Barrication and signage to be provided around work area	12	3	4	worker should have working at height training & used body harness must be competent person	Falling down and damage equipment/injured worker	Elevated installation of Telecommunication and CCTV	Telecommunication and CCTV work
2	1	2	Yes	Site Engr., & Hse		12	3	4	Daily inspection/maintenance	Loosen cramps/plunks and injured	Scaffolding work	Scaffolding work

/RISK ASSESSMENT AND ANALYSIS/ تقييم المخاطر												
DEPARTMENT/AREA: (المنطقة/المنشأة): Replacement of 380kV Cables and Termination in SS 9002 at PP8												
DATE: (التاريخ) 1 Aug 2017												
NEXT REVIEW DATE: (التاريخ المرة القادمة) 1 Aug 2018												
APPROVED BY MANAGER/SUPERVISOR: (اعتمد من قبل)												
Signature (التوقيع)												
HAZARD IDENTIFICATION/ تحديد الخطر												
RA Number (رقم تقييم المخاطر): 01												
RA TEAM (أسماء فريق التقييم):												
1. Eng. Karim Ramadan												
2. Eng. Moustafa Zidan												
3. Eng. Jibby Cayabyab												
INSTALLATION , TERMINATION, HIGH VOLTAGE TEST												
RISK ASSESSMENT/ تقييم المخاطر				وسائل التحكم/ Controls		Risks Issue (Possible incident) (What can go wrong) (Accident/ill health to persons, fire or property loss)		Hazards/ الأخطار		Workplace/ Activity/ Process/ Equipment/ Material العمل/ العملية/ المكان		Item #
تصنيف المخاطر Risk Ranking		Likelihood/ الاحتمال		Consequence/ العاقبة		Existing Controls/ وسائل التحكم		Ensure proper scaffolding were provided Avoid stack piling of materials along the working platforms. Provision and use of full body harness.		Fall from heights (personnel and materials & tools)		2, working at elevated area
12		3		4								
12		3		4				MSDS of paints and solvent shall be made available at site and clinic. Workers shall be briefed about the health hazards via daily toolbox meeting. Eye wash station shall be provided near the painting area.		Health diseases		3, Health Hazards
12		3		4				Training to people Provision of heat stress facilities (shelter, drinking water, etc.)		Worker collapse		4, Thermal/Heat Stress
12		3		4				Hot works in and around the painting area shall be controlled. All ignition source shall be kept away from the painting area. No smoking policy shall be strictly implemented. Proper storage of paint materials to be kept. No excess materials shall		Fire		5, storage for painting materials and nearby activities

تقييم المخاطر / RISK ASSESSMENT AND ANALYSIS / TASK/ACTIVITY/PROCESS NAME:												
RA Number(رقم تقييم المخاطر): 01												
(الاسماء فريق التقييم) RA TEAM(NAMES):												
1.Eng. Karim Ramadan												
2.Eng. Moustafa Zidan												
3.Eng. Jibby Cayabyab												
HAZARD IDENTIFICATION / تحديد الخطر												
INSTALLATION ,TERMINATION,HIGH VOLTAGE TEST												
RISK ASSESSMENT / تقييم المخاطر												
CONTROL / وسائل التحكم												
Risks Issue (Possible incident) [What can go wrong] (Accident/ill health to persons, fire or property loss)												
Hazards / الأخطار												
Workplace/ Activity/Process/Equipment/Material / موقع العمل/المعدات/المواد												
Item #												
Manhole Work												
TUV for equipment and operator												
Site Engr. & Hse												
Yes												
2 2 1												
Additional signages												
Site Engr. & Hse												
Yes												
2 2 1												
Ventilation , watchman required												
Site Engr. & Hse												
Yes												
4 2 2												
Training awareness												
Site Engr. & Hse												
Yes												
2 2 1												
Third party certificate / TUV for equipment and operator												
Site Engr. & Hse												
Yes												
2 2 1												
Support for form work to be checked prior to pouring												
Site Engr. & Hse												
Yes												
2 2 1												

Risk Assessment Form for High Voltage Test

Name	Jibby Cayabyab
Job title	Hse manager
Project	Testing for high voltage cable
Experiment location	
Date of experiment	From: To: Present
Signature	J.C
Date	

Use the following to rate the risk and plan corrective action:			
Risk Level	Category	Tolerability	Comments
1-2	Very Low	Acceptable	No Further Action Necessary
3-4	Low	Acceptable	No additional control require (in term of time, money and effort).
5-7	Medium	Tolerable	Consideration should be given to rectify the risk in a defined period.
8-14	High	Tolerable	Substantial efforts should be made to reduce the risk in a defined period. Might necessary to suspend the work.
15 and above	Very High	Unacceptable	Substantial improvements in risk control are necessary to reduce the risk to tolerable or acceptable level.

Risk = L x S = Likelihood x Severity

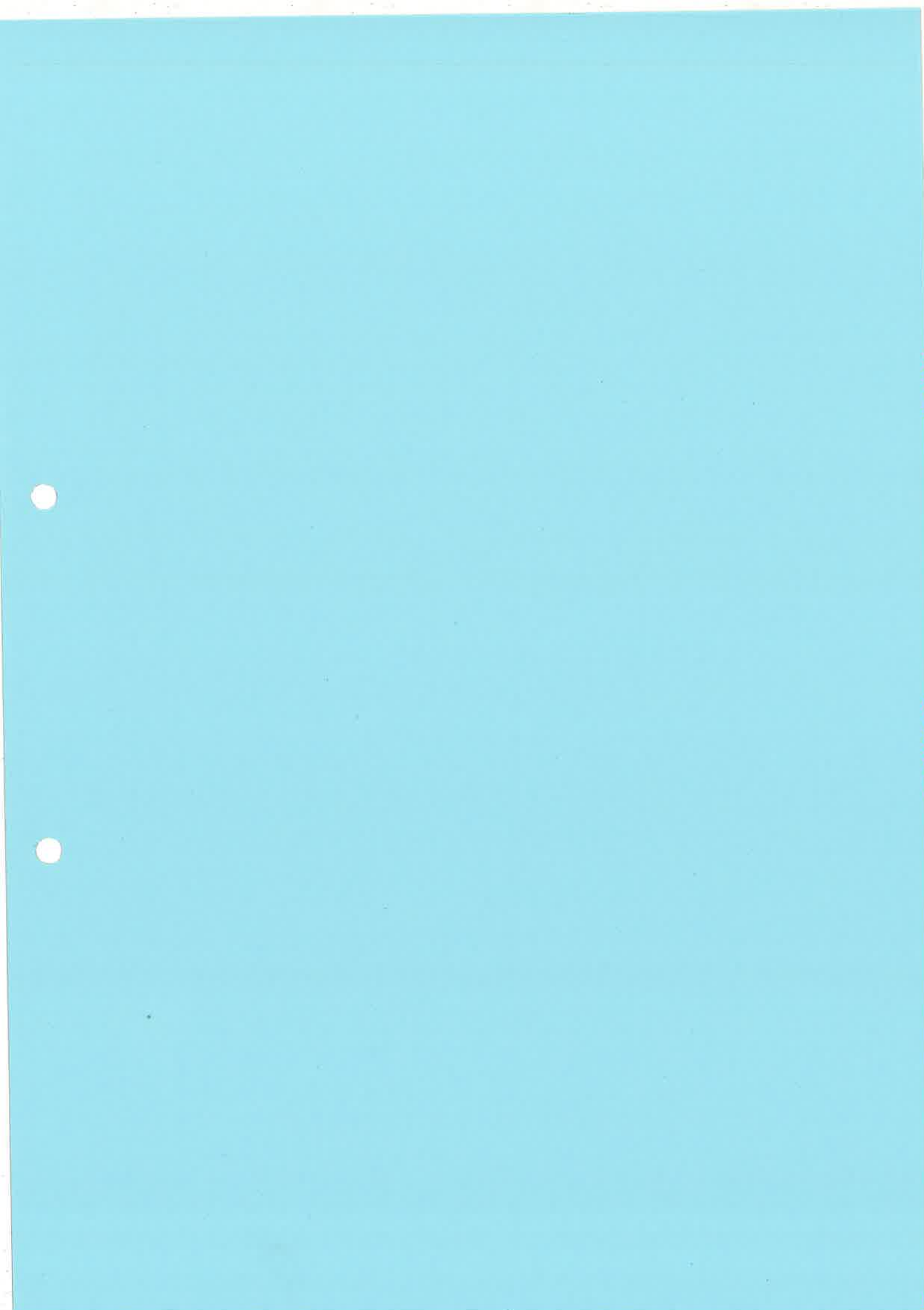
Use the hazard matrix below to calculate the risk rating for the activity:

	First Aid Injury / Illness	Minor Injury/ Illness	Moderate Injury / Illness	Major Injury/ Illness	Fatality/ Disabling Injury
	1	2	3	4	5
Very likely	5	10	15	20	25
Fairly Likely	4	8	12	16	20
Likely	3	6	9	12	15
Unlikely	2	4	6	8	10
Very unlikely	1	2	3	4	5

Risk Assessment reviewed and accepted by:

(Signature)

Name: Designation:



JOB SAFETY PROCEDURE

DEPARTMENT: Replacement of 380kV Cables and Termination in SS 9002 at PP8

ELEMENT 5.19.1

JOB SAFETY PROCEDURE

DEPARTMENT/DIVISION	UG Cable	EMPLOYEE JOB TITLE	Hse engr
JOB/TASK TITLE	ASPHALT WORK		
STEPS	HAZARDS		
STEP#	LIST ALL STEPS IN PERFORMING THIS TASK	IN EACH STEP , WHAT COULD CAUSE INJURY,LOSS DAMAGE, INTERRUPTION,OR POLUTION?	CONTROLS REQUIRED TO MINIMIZE /ELEMINATE HAZARD
	Vehicle Travel	Risk due to defective vehicle	All vehicles will be inspected and certified Side mirrors to be provided to all types of rollers.
		Struck by vehicle while installing or removing the safety cones.	Flagmen to be provided at both ends of the work area. Trained and competent and fully on their duties
		Prevent vehicles from entering work area	Safety cones and warning tape to be provided around the all work area
		Collision between oncoming traffic	Safety cones to be provided every 1meter, along full length of the work area. Cones have reflected plate, a light for night.
			Safety cones and warning tape to be provided in the middle of the road. To separate sides of traffic along road.
		Over speeding and traffic control	Speed limits signs will be established and must not be exceeded.
			Safe working procedures will be planned at all times by providing direction signs to guide the vehicles.
			Trained traffic control personnel during the asphalt placement and compaction
	Material Handling / Stores	Physical injury due to mishandling of material	All materials shall be stored, handled and used in safe and proper manner. MSDS to be available on site.
			Offloading and storage of material shall be properly controlled / supervised at all times.
			Tag lines shall make use of control material during loading and off-loading
			Personnel shall be trained in safe methods of material handling.
	Transportation	Physical injuries / unqualified drivers	Drivers will have a valid SAUDI driving license and / or operator's certificate.

COMMENTS
OF JOB
OBSERVATION

			Drivers will not leave their vehicles unattended while engine is still running.	
			No person is allowed to remain in or on vehicles while being loaded by mechanical means.	
			Personnel will be advised of risks through toolbox talks.	
			Competent banksmen will be present for reversing and travel in congested areas and to guide vehicles. Banksmen shall wear bright coloured safety uniforms and shall carry a whistle.	
		Over speeding	Authorized drivers will be responsible for safe operators of their vehicles and that all movement are made smoothly and at safe speed.	
			Speed limit signs will be established and clearly displayed for traveling on site and must not be exceeded.	
			Safe working procedures will be planned at all times by providing directional signs and banksmen to guide the vehicles.	
		Ground stability for heavy vehicles.	Routes for heavy loaded vehicles shall be safe against settlement and graded to an acceptable level if deemed necessary. Standing area to be selected for material supply vehicles.	
	Paving, spreading and compaction of Asphalt	Physical injury by equipment	All plants and equipments shall be operated by trained and authorized personnel.	
			Banksmen & traffic control personnel wearing reflective vests with red flag and whistle shall be used to control the spreading and compaction of the Asphalt.	
			Moreover, Banksmen on both sides of the road is highly required to prevent people from crossing the road while rollers are working	
		Body injury or death	All equipment operators shall be certified / qualified to operate the equipment.	
			Operators will carry out daily inspection and check on their assigned equipments before use.	
		Contact w/ Body & eyes	PPE as recommended on MSDS	
	Spreading asphalt layers of different	Safe Hazards Flammable (Asphalt & MC vapours area heavier than air, spreading along the ground and distant ignition is possible).	Dry Chemical extinguishers shall be available.	
			Make use of sand or earth, which will be used for small fires.	
			Exposed containers – especially containing flammable storage facilities materials – shall be cooled with water.	
			1. Covered with a lid. 2. Kept away from source of fire.	



				Remove all possible sources of ignition in the surrounding area.	
				While handling: Do not smoke. - Avoid naked flames or lights. - Avoid sparks.	
			Environmental Hazards Harmful to aquatic organisms.	Take proper precautions to ensure health and safety before attempting spill control or clean up.	
				Avoid spillage especially water surfaces. Since asphalt components (bitumen, kerosene) floats on water and poorly soluble mixtures, thus cause physical fouling of aquatic organism, especially tainting of fish and shellfish.	
			Cause long term adverse effects in the environment	Avoid any spillage since large volumes may penetrate soil and could contaminate ground water. Waste must be disposed of in accordance with prevailing regulations. Absorb or contain the spillage with sand or earth. Shovel up and place in a labeled sealable container for subsequent safe disposal.	
				Do not dispose in drains or in water sources.	

JSP Prepared By: _____

Date: _____

JSP Accepted By: _____

Date: _____

JSP Approved By: _____

Date: _____

DEPARTMENT: Replacement of 380kV Cables and Termination in SS 9002 at PP8

ELEMENT 5.19.1

JOB SAFETY PROCEDURE

DEPARTMENT/DIVISION		UG Cable	EMPLOYEE JOB TITLE	HSE ENGR	COMMENTS OF JOB OBSERVATION
JOB/TASK TITLE		ELECTRICIAN WORK			
STEPS		HAZARDS			
STEP#	LIST ALL STEPS IN PERFORMING THIS TASK	IN EACH STEP , WHAT COULD CAUSE INJURY,LOSS DAMAGE, INTERRUPTION,OR POLLUTION?			CONTROLS REQUIRED TO MINIMIZE /ELEMIMATE HAZARD
	Wiring repairs	Electrocution			Ensure complete lock out tag out isolation before commencing job. Provide sign at isolation point to advise of lock out.
	Trenching	Back injuries			Warm up prior to starting. Do not lift objects over 16kg per person. Use trolley to move heavy objects. Wear appropriate Personal Protective Equipment .
		Cave in			Ensure trench is constructed in accordance with Regulations and that appropriate shoring is in place where required. Have at least one person on standby when working in trench.
	General/ Clean up	Cuts / scratches			Wear appropriate personal protective clothing
	General Labour	Working at height. Electrical hazards			Do not use ladder over 2m high. Use cherry picker or scaffold. Establish perimeter around area that is no-go area. Ensure all tools are appropriately guarded and electrical appliances are protected by means of a residual current device. Ensure all extension leads are in a safe condition with plugs and connections. Ensure there are no electrical cables in the vicinity of area.
	Clean up	Insect bites / Broken glass / syringes / spiders			Wear appropriate foot and hand protection. Dispose of material in an appropriate manner.
	Using power tools	Noise /Vibration /Dust / Electrical hazards.			Wear appropriate personal protective equipment. Ensure all tools are appropriately guarded and electrical appliances are protected by means of a residual current device. Ensure all extension leads are in a safe condition with plugs and connections.
	Working outside	Sunburn			Sunhat / glasses / sunscreen / protective clothing.



Using hand tools	Cuts / tears sprains etc.	Use tools in a manner that will not cause jamming or seizing. Wear appropriate PPE.	
Working outside	Sunburn	Sunhat / glasses / sunscreen / protective clothing.	

JSP Prepared By: _____

Date: _____

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Date: _____

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Date: _____

DEPARTMENT: Replacement of 380kV Cables and Termination in SS 9002 at PP8

ELEMENT 5.19.1

JOB SAFETY PROCEDURE

DEPARTMENT/DIVISION	UG Cable	EMPLOYEE JOB TITLE	Hse engr
JOB/TASK TITLE	EXCAVATION		
STEP#	STEPS LIST ALL STEPS IN PERFORMING THIS TASK	HAZARDS IN EACH STEP , WHAT COULD CAUSE INJURY,LOSS DAMAGE, INTERRUPTION,OR POLLUTION?	CONTROLS REQUIRED TO MINIMIZE /ELEMIMATE HAZARD
	Excavation	Injury due to buried cables pipelines.	Daily inspection of all excavations by TDP is mandatory, register to be kept of such inspections
			Use of enhanced excavation PTW.
		Driving into excavation	Safety line / hard barriers shall be provided 1 meter from the edge of the excavation around all excavations as required / specified.
			Trained banksmen wearing reflective vests, with red flag and whistle shall be provided to guide vehicles.
		Personnel falling into excavation	Guardrails shall be erected around excavation where risk of falling away from edge of excavation 1.2m or more. Blinking light shall be provided for excavations located near traffic or pedestrian routes.
			Excavation less than 1.2m depth, line barricade will be provided.
			Adequate access shall be provided such as ladder/slope for excavations exceeding 60cm.
		Collapse of walls resulting in injuries and fatalities	Walls of excavations shall be properly sloped, benched or shored if deeper than 1.2m. details of shoring to be part of a separate study based on site conditions & to be submitted in due course. Detail of shoring to follow construction safety
			Excavations deeper than 1.2m, the use of ladders and ramps at distances of 20Cm intervals in mandatory.
			Excavator machines shall be operated by licensed and authorized operators.
			Spoil heaps of excavated materials shall be kept at least 1m from the side of excavation along the edge to prevent the

			sides from collapse due to overburden. Further if excavated material is significant amount.	
			Shoring where applicable shall use timber in a well supported and securely wedged manner to prevent accidental displacement. Sheeting and timber shall extend 50cm above ground to prevent objects from falling into excavations. Leakage of soil from behind the sheeting shall be stopped immediately to prevent further caving in and sudden collapse. Excavations next to heavy traffic areas w/vibratory impacts will be injected more frequency. No entry into excavation (1.2m deep) is to be permitted without an entry permit signed by supervisor and endorsed by safety. Shoring should be fixed from above never from below. All timber used in ground support should be because it can collapse suddenly.	
		Heavy mobile plant movement accident	All operators must be trained and 3 rd party certified. All equipment operators to complete	
			All equipment should be fitted with reverse alarm and rotating beacon light.	
	Dewatering	Equipment Risks	Trained operators / attendants will be responsible for operating and maintaining the equipment.	
			Daily documented routine check (check list) will be carried out for the equipment to ensure compliance with environmental, Health and safety regulations.	
		Fire Risk	Fire extinguisher will be placed next to the pump.	
			Weekly inspection of extinguishers will be carried out to make sure its operational.	
	Material stocking & Transportation	Vehicle Risks	Drivers & operators must hold valid driving license.	
			Vehicle must obey site speed limitations.	
			Banks men wearing reflective vests to be employed for vehicles guidance.	
			Truck tipper drivers must ensure safe loading.	
			Vehicles must be equipped with reverse warning alarms.	
			Tipper truck will only tip when on firm leveled ground.	
			Drivers & operators must hold valid driving license.	
		Loading of material	Tipper truck drivers and other personnel shall ensure closing/Opening tipper's disposal gate upon Loading/Offloading material.	
		Unqualified Drivers	Licensed & experienced drivers shall be employed	
		Over speeding & Traffic control / reversing	20 KPH Speed Limit shall be established and be clearly displayed along the route from stockpile to site.	



			Qualified banks men are to be employed to signal for drivers during reversing.	
			Stockpiles areas are to be barricaded and warning signs will be posted.	
		Third Party Risks	Unauthorized personnel are not allowed to be in the vicinity of the area.	
		Risks involved in Lifting/Rigging, and Material off loading	Machinery/Equipment to be operated by trained and 3 rd party certified riggers and operators.	
			Working areas shall be barricaded (only authorized personnel are allowed to enter)	
			All Employee shall wear/safety shoes eye protection, gloves, hardhat, coveralls and hearing protection where required.	

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DEPARTMENT: Replacement of 380kV Cables and Termination in SS 9002 at PP8

ELEMENT 5.19.1

JOB SAFETY PROCEDURE

DEPARTMENT/DIVISION	UG Cable	EMPLOYEE JOB TITLE	Hse engr
JOB/TASK TITLE		GRINDING, WELDING & CUTTING WORK	
STEP#	LIST ALL STEPS IN PERFORMING THIS TASK	HAZARDS IN EACH STEP , WHAT COULD CAUSE INJURY,LOSS DAMAGE, INTERUPTION,OR POLLUTION?	CONTROLS REQUIRED TO MINIMIZE /ELEMINATE HAZARD
	Welding	Fire / Explosion/Sparks	• Take hot work permit and ensure that all the required conditions are met before starting the job. • Keep fire extinguisher with fire watch. • Provide Fire blanket and cover the area to avoid sparks falling down or reaching any nearby areas or pipe lines • Barricade the area. Barricade the bottom, if working at height. • Suspend the job if any emergency alarm is sounded • Ensure no conflicting jobs in vicinity before start of job.
		Electrical shock.	• Welding machine equipments and cables shall be inspected and certified. • Ensure electrical cables are protected from water / spilled liquid • The welding job shall be directly earthed with earthing cables
		Hot Surface	• Use leather gloves, leather Apron/Welding suit, leather ankle protection and welding helmet.
		Cables(Cable Damage, Trip and fall etc)	• Ensure welding cables are in good condition and well guarded against any possible run over by vehicles or possible material transfer. • The cables shall be laid properly clear of access/egress. • The cables shall be secured at different points to avoid loading the cable and consequent damage, especially when routed to a higher location.
		Left over hot work debris.	• Ensure the good house keeping practice.

COMMENTS
OF JOB
OBSERVATION

			- Final clearance from the equipment owner. - Proper container for hot welding rod ends and welding slag	
		Slips trips and falls	- Store all the equipments properly when not in use - Welding hoses should be laid properly and guarded - Barricade the area - Remove the unwanted equipments off the site.	
		Exposure to Welding Fumes	- Ensure area is properly ventilated - Refer to MSDS of Electrodes - In areas with congestion / confinement air purifying respirator for welding fumes recommended.	
		Improper handling of Gas Cylinder & Hoses	- Ensure all cylinders are secured and capped - Ensure hoses are in good condition and well guarded against any possible run over by vehicles or possible material transfer - Gas cylinders secured vertically and protected from direct sunlight/heat - Ensure cylinder is inspected / Tested and safe to use	
	Grinding for surface preparation	Sparks/Flying particles.	- Keep fire extinguisher with fire watch. - Provide Fire blanket and cover the area to avoid sparks and flying particles falling down or reaching any nearby areas - Barricade the area - Suspend the job if any emergency alarm is sounded - Ensure no conflicting jobs in vicinity before start of job. - PPE: Use leather gloves and leather apron - PPE: full face shield and safety glasses to avoid hitting of flying particles	
		Electrical shock.	- All portable electrical equipment's /cables shall be inspected and certified. - Ensure electrical cables are protection from water / spilled liquid	
		Breakage of grinding wheel	- Only competent and authorized personnel to execute the job - Use certified machines only and Ensure Machine in good working condition - Ensure Rated RPM of wheel should be more than Rated RPM of grinding Machine	



			- Inspect the grinding/cutting wheel before each use for its working condition , wear and tear , expiry etc - Grinding wheel to have tongue guards - PPE: Hearing protection	
Housekeeping.	Slips and fall & Hot materials	- Good house keeping practices. - Before stating housekeeping activity, makes sure about no over head floor activities. - Remove the barriers after finishing the work & housekeeping. - Do not handle materials with bare hands. Use leather gloves - All the removed insulation materials shall be properly contained and disposed in designated waste collection points. - Do not put hot debris into the waste skips		

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METHOD STATEMENT

	Replacement of 380kV Cables and Termination in SS 9002 at PP8	Ref No.:
	METHOD of STATEMENT for CABLE LAYING/PULLING & Termination Works	Rev Date: 23.8.2017

1. Scope

2. Definition

3. References

4. Responsibility

5. Tools & Equipment's

6. Procedure

7. Attachment

	Replacement of 380kV Cables and Termination in SS 9002 at PP8	Ref No.:
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1. PURPOSE & SCOPE

The purpose and scope of this procedure is to define the sequence of activities for installation of High Voltage Power cables. It involves all installation and testing activities.

2. DEFINATION AND ABBREVIATION

CABLE	-	An insulated conductor
CONDUCTOR	-	A wire, bare metallic carrier designed for electric current
INSULATED	-	Wrapped / covered with by a non-conducting substance
H V	-	High Voltage (nominal voltage exceeding 1KVAC)
L V	-	Low Voltage (Nominal voltage exceeding 50Vac or not exceeding 1000VAC or 1500 V DC)
XLPE	-	Cross linked polyethylene
PVC	-	Polyvinyl chloride
ITP	-	Inspection and testing plan
QA / QC	-	Quality Assurance / Quality Control
RFI	-	Request for inspection
NCR	-	Non Conformance Report
PQP	-	Project Quality Plan
HSE	-	Health, safety and environment
IFC	-	Issued for construction
MOS	-	Method of Statement

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3. REFERENCE

- Project Quality Plan
- Inspection and Test Plan
- Quality control procedure for identification and traceability
- Check list
- Approved Cable Pulling Schedule
- 11-TMSS- 02 SEC Standard

4. RESPONSIBILITIES

- **Project Manager**

To arrange required material and resources.

- **Site Manager**

Responsible to execute activity as per plan /schedule.

- **Planning Engineer**

Responsible for cable installation scheduling & planning.

- **QA/QC Engineer**

Responsible for ensuring and monitoring that all cable installation activities are executed as per procedures and approved ITP'S.

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- **Forman**

Responsible to execute activity of installation as per IFC drawings and this MOS.

- **Safety Officer**

Responsible for ensuring best Health& Safety practices across working, storage areas and during equipment operations. He must prepare risk assessment for effective controls.

5. TOOLS & EQUIPMENT

- Puller
- Tensioner
- Drum Jack
- Roller
- Cutter
- Pilot Wire

6. Procedure

- All cables will be visually inspected for any damage before installation
- Verify and inspect the exact route for cable pulling from termination to termination.
- Inspect complete lay out of circuit route trenches, cable trays and ducts before cable pulling.
- Check and inspect required warning signs, warning tapes & warning lights to be installed through at cable installation route/area.
- Follow the rotation direction shown in the cable drum to wrap of during cable from drum installation drum

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- Cable drum shall be fixed on jack in right direction and inspect cable support , clamping & blocking.
- Inspect leading wire rope / Pilot wire , to be fastened with pulling eye with clevises through swivel.
- Inspect warning signs, both in Arabic& English and comply with traffic police requirement.
- Check and inspect required warning signs, warning tapes& warning lights to be installed through at cable installation route /area.
- The cable pulling shall be started at speed specified in pulling as per cable size table with watchman posted at different locations.
- Cable pulling eye hook shall be fixed at the top of the cable and connected to cable pulling wire
- Lubricant may be applied as necessary for smooth pulling speeds at both ends.
- Monitor on regular basis, the pulling and rotating speed of winch.
- Cable crossing under road shall be through suitably designed reinforced concrete duct bank for three phases or more.
- Check correct phase marking and its color.
- Check the installation of warning tape color and its language.
- Inspect the depth from buried cable to tiles
- Inspect correct installation of splice kits and termination kits.
- Check power circuit tags for identification for identification and specifications have embossed on it.
- **QUALITY CONTROL CHECK DURING CABLE JOINTING & TERMINATION**

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- All cable joints / termination shall be strictly in accordance with cable manufacturer's recommendation
- All cable joints / termination kits shall be compatible to the cable and shall be Confirmed by the cable manufacturer.
- At most care shall be taken while preparing the cable for jointing / termination
- Qualified and well experienced person shall be engaged for cable jointing / termination
- Check continuity & insulation resistance with calibrated instrument before cable jointing / termination.
- Check and ensure the cable jointing / termination kit is complete with all materials as per the packing list.
- All cable conductor shall be fitted with company approved make & correct size ferrule / leg. The ferrule / leg shall be crimped compression type as specified by the manufacturer.
- Cable glands shall be double sealed compression type with earth clamping features to IP55.
- All EE xd, EE xe cable glanding and termination shall be done by trained technician

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Testing

- Inspect all laid cables for physical soundness.
- Inspect all connection to be solid and firm.
- The continuity of each conductor shall be checked and record the results.
- The insulation resistance test between conductors and shield armoring shall be checked.
- Conduct AC HV Test between core to core and core to ground.
- Seal cable ends after test completion to prevent ingress of moisture.
- Record all testing results.

7. Attachment

- Job Hazard Analysis

	Replacement of 380kV Cables and Termination in SS 9002 at PP8	Ref No.: Rev Date: 23.8.2017
	METHOD of STATEMENT for CABLE LAYING/PULLING & Termination Works	

Activity	Hazards	Control Measures
Cable Pulling of (HV) power & Control Cable Pulling	Body Injuries	- Personnel Shall wear personal protective equipment such as hard hats, Eye protection, Hand gloves and Safety Shoes during cable pulling - Supervisor/Foreman shall give Tool Box Talk to his worker prior to start of work. - Proper Communication during the operation. - First aid kit shall be available.
	Cable Pulling (Machine) • Cable Drum Roll Over • Hit by the pulling wire Hand injuries	- Electrician shall be trained and competent. - Work Crew will use appropriate PPE.(Hand Gloves, Hard Hats, Safety Shoes) - STARRT Talks for the crew involved in the machine cable pulling - Ensure appropriate barricade(Tapes) & sign boards placed around the area during Machine cable pulling - Hand tools training as Tool Box talks topic - Daily inspection of equipment prior to start of work - Proper communication during the operation - Properly secure the load balance, the load of the jack trolley - Either flag man or walkie talkie should be providing during cable pulling by machine. - Provide sand bag in required place especially turning /corner side.
	Cable Drum Falling	- Cable Drum Steel Roller shall be provided with END STOPPER to prevent cable drum from falling - Assessment of the weight of cables to be pulled and also number of workers to be defined. - Worker shall keep distance from the cable drum being pulled - Pulling cable crew shall not pull the cable fast. Team work must be followed - Cable drum shall be properly located on cable jack designated for the purpose and of suitable capacity and base - Cable jack shall be repaired if welded joints are already deteriorated. - Cable Jack shall be of sufficient capacity and placed on even and hard surface. - Electrician /Foreman/Helper shall be trained and competent.

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Activity	Hazards	Control Measures
	Fall from Height	• Proper Ladder shall be provided for cable trench. • Proper hard barricade in both side of cable trench.
	Back injuries from Manual Handling	• Worker shall be taught in cable pulling technique including the requirement for ensuring good manual handling techniques • STARRT Talks for crew involve in cable pulling.
	Health Hazard	• Provide cold drinking water at the job site. Drink plenty of cold drinking water especially during the hot weather condition. • Immediately GET OUT from the cable pulling area when there are symptoms of heat stress attack and inform your supervisor or HSE Officer immediately. • Provide the temporary shade for resting and first aid purpose.
	Tripping Hazards / Damage to Property	• Workers shall not RUN on installed or laid cables during cable pulling. • Cables shall be KEPT AWAY from the foot equipment traffic. Stored Material shall be barricaded and provided by signs. • Avoid storing material on walkways or ingress or egress.

	Replacement of 380kV Cables and Termination in SS 9002 at PP8	Ref No.:
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A. PREPARATION FOR EXCAVATION

1. Underground Electrical Cable Detector

JGC will provide four (4) fully functional and Third party calibrated buried Cable Detectors. The detectors will be capable of identifying both energized and electrically isolated buried cables. TDP will provide suitable trained personnel to operate cable detection equipment.

2. Notification to Operators and utility company

Prior to commencing an excavation work, notification of the intended work will be made at least 48 Hours in advance to all the known owners of underground facilities in the area. Emergency repair work to underground facilities will exempted from this requirement.

3. Drawing

TDP shall maintain and provide TDP utilities drawings of all temporary underground services, such as sewer, water, fuel, electrical lines and telecommunication lines. In order to make it precisely trial excavation by hand and detection will be required wherever high potential adverse underground risk area. Prior to PTW application, the PTW requester and/or PTW Holder(Saudi government Agency) determines to event extent possible whether underground installations (temporary and permanent), such as sewer, water, fuel, electrical lines, telecommunication lines, or permanent plant product lines, will be encountered.

4. Worksite

Prior to the PTW application, the PTW requester and /or PTW Holder(Saudi government Agency) will carry out a field check to determine the presence of any underground facilities.

If underground facilities are identified from the drawings or field checks, the approximate locations are marked and employees involved in the excavation area are advised of the underground installations.

When the excavation work approaches the approximate locations of the underground facilities (<2meter distance) or parallel location of an underground installation and danger of accidental contact or disturbance is possible, the exact location will be determined by appropriate means before proceeding. The existing services are to be marked on the ground and signs erected highlighting the services.

When underground facilities and exposed ones as well are uncovered, adequate protection and support will be provided for the existing installation.

Tree, boulders, poles and other surface encumbrances that may create a hazard to employees involved in excavation work shall be removed or made safe before excavation work.

When excavation works are adjacent to existing buildings and/or walls, stability shall be ensured by using shoring, bracing and/or underpinning after engineering examination.

B. Risk Assessment

Examination by a designated Excavations PTW Approval Authority (Civil Department) is made to determine that no recognizable conditions exist that would expose employees to injury

	Replacement of 380kV Cables and Termination in SS 9002 at PP8	Ref No.:
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from possible moving ground before work is permitted in or adjacent to excavations. The Excavations PTW Approval Authority shall be trained to recognize excavation hazards.

Eventually Task (Crew) Based Hazard Analysis shall be conducted daily prior to the work and record shall be taken and maintained.

C. GENERAL HSE REQUIREMENTS

A. Supervision

Excavation and backfill activities will, at all times, be under the immediate supervision of a competent person who is authorized to modify the shoring or sloping in accordance with the recommendations of a designated TDP Competent Excavation Person.

Daily inspection of excavations will be carried out by a designated TDP Competent Excavation Person in order to ensure that all work within excavation will be carried out safely.

Excavation and trenching operation shall be halted when inspections indicate that safety controls are inadequate.

6.2 Access/Egress

A convenient and safe means of access is provided for employees to enter and leave excavation areas. This will consist of stairway, ladder or ramp securely fastened in place where employees are working. No homemade wooden ladders are to be used.

When employees are in trenches 1.5 meters or more depth, a safe means of access will be provided and located so as to require no more than 7.6 meters of lateral travel.

6.3 Crossing

Surface crossing of trenches: Surface crossing of trenches should be discouraged; however, if trenches must be crossed, such crossings are permitted only under the following conditions

- Vehicle crossings must be designed by and installed under the supervision of a registered professional engineer
- Walkways or bridges must be provided for foot traffic. These structures shall:
 - have a safety factor of 4;
 - have a minimum clear width of 20 in (0.51 m);
 - be fitted with standard guardrails, mid-rails and toe boards and - extend a minimum of 24 in (.61 m) past the surface edge of the trench.
 - be of sufficient strength for the intended load

6.4 Equipment

All excavation equipment shall be inspected, approved in accordance with the Plant, Vehicles and Heavy

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Equipment inspection and Maintenance
Procedure.

An employee working near operation equipment is required to work in a safe position such that the employee is not in danger of falling into or contacting the machine's moving plans.

All heavy equipment (e.g. compressor units, generator, etc.) shall be kept a minimum of 1.5 meters away from the edge of an excavation.

Wheel chocks are to be placed on any wheeled vehicle. This is parked or working near, in close proximity to an excavation. This includes dump and concrete trucks.

TDP shall ensure that a dedicated banks-man (wearing visible vest) shall monitor all mechanical excavations and enforce the HSE around the excavation.

6.5 Barricading and edge protection

All excavations deeper than 1.2m shall be shored, benched or the wall cut back to safe slope (a maximum of 1 in 2) and have a hard barrier constructed 1 meters from the edge of the excavation so as to indicate the presence of a hazard.

- Protective hard barricades shall be placed around all excavations of depth greater than 1 meters
- Protective hard barricades shall be placed around all excavation, where there is a significant amount of construction equipment, vehicular or pedestrian traffic.
- Warning barricades shall be placed around excavations in the absence of protective hard barricades.
- Plastic tape is not permitted to be used for warning barricades for excavated areas.

While installation of barricade for excavated area, watchman wearing visible vest shall be arranged to control vehicles and pedestrian. Otherwise put warning barrier for whole areas.

Excavations left open for longer than one day shift will be clearly identified by flashing light at night where the excavation is located near vehicle or pedestrian access way or is in a position which could cause danger to personnel/vehicles working after dark.

6.6 Spoil

Excavate material must be prevented from falling back in to the excavation area where employee are working. Excavated material, therefore, shall heap-up keeping distance of 1 m from the edge of excavation in minimum.

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6.7 Inspections

Daily inspections of excavations, trenches, adjacent areas, and protective systems shall be made by the task supervisor/Charge hands and HSE personnel prior to the start of work and as may be required throughout the shift.

Inspections shall be made after every rainstorm, or unusual work activities, i.e., excess heavy equipment travel or vibration. If evidence of possible collapse is apparent, all work shall cease until the conditions are rectified.

7. OVERVIEW: SOIL MECHANICS *(Ref. OSHA technical manual - section v: chapter 2)*

A number of stresses and deformations can occur in an open cut or trench. For example, increases or decreases in moisture content can adversely affect the stability of a trench or excavation. The following diagrams show some of the more frequently identified causes of trench failure.

A. Tension cracks

Usually form at a horizontal distance of 0.5 to 0.75 times the depth of the trench, measured from the top of the vertical face of the trench. See the accompanying drawing for additional details.



B. Sliding

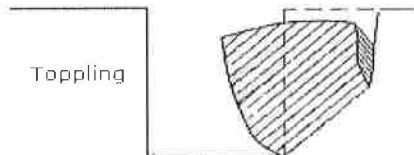
sluffing may occur as a result of tension cracks, as illustrated below.



C. Toppling

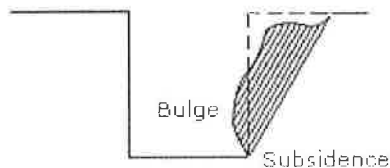
In addition to sliding, tension cracks can cause toppling. Toppling occurs when the trench's vertical face HSE along the tension crack line and topples into the excavation.

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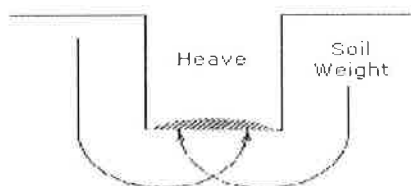
D. Subsidence and Bulging

An unsupported excavation can create an unbalanced stress in the soil, which, in turn, causes subsidence at the surface and bulging of the vertical face of the trench. If uncorrected, this condition can cause face failure and entrapment of workers in the trench.

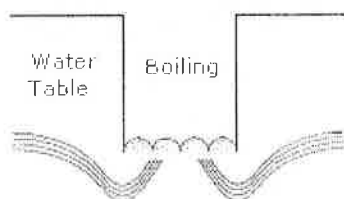


E. Heaving or Squeezing

Bottom heaving or squeezing is caused by the downward pressure created by the weight of adjoining soil. This pressure causes a bulge in the bottom of the cut, as illustrated in the drawing below. Heaving and squeezing can occur even when shoring or shielding has been properly installed.



F. Boiling is evidenced by an upward water flow into the bottom of the cut. A high water table is one of the causes of boiling. Boiling produces a "quick" condition in the bottom of the cut, and can occur even when shoring or trench boxes are used.



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8. DETERMINATION OF SOIL TYPE

OSHA categorizes soil and rock deposits into four types, A through D, as follows:

A. **Stable Rock** is natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed. It is usually identified by a rock name such as granite or sandstone. Determining whether a deposit is of this type may be difficult unless it is known whether cracks exist and whether or not the cracks run into or away from the excavation.

B. **Type A Soils** are cohesive soils with an unconfined compressive strength of 1.5 tons per square foot (tsf) (144 kPa) or greater. Examples of Type A cohesive soils are often: clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. (No soil is Type A if it is fissured, is subject to vibration of any type, has previously been disturbed, is part of a sloped, layered system where the layers dip into the excavation on a slope of 4 horizontal to 1 vertical (4H:1V) or greater, or has seeping water.

C. **Type B Soils** are cohesive soils with an unconfined compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa). Examples of other Type B soils are: angular gravel; silt; silt loam; previously disturbed soils unless otherwise classified as Type C; soils that meet the unconfined compressive strength or cementation requirements of Type A soils but are fissured or subject to vibration; dry unstable rock; and layered systems sloping into the trench at a slope less than 4H: 1V (only if the material would be classified as a Type B soil).

D. **Type C Soils** are cohesive soils with an unconfined compressive strength of 0.5 tsf (48 kPa) or less. Other Type C soils include granular soils such as gravel, sand and loamy sand, submerged soil, soil from which water is freely seeping, and submerged rock that is not stable. Also included in this classification is material in a sloped, layered system where the layers dip into the excavation or have a slope of four horizontal to one vertical (4H:1V) or greater.

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1. SCOPE

- 1.1. This procedure defines the basic safety measures and provides instructions to project employees pertaining to road works and traffic signs.
- 1.2. This document describes the HSE procedure to be followed on or near the project construction site to ensure roadwork safety and proper use of traffic signs and shall apply to all activities undergone by TDP on the Project.

2. PURPOSE

- 2.1. The purpose of this procedure is to:
 - 2.1.1. Ensure that all road works and related activities carried out on or near the project sites are performed in a planned, controlled and safe manner.
 - 2.1.2. Ensure the safety of the employees, the works and the public, enabling them to pass the worksite safely.
 - 2.1.3. Ensure compliance with the relevant Saudi Regulatory Authorities(MOROR) and specified requirements for road works and related activities.

3. REFERENCES

- 3.1. Company HSE Plan
- 3.2. Company Transport and Traffic Management Plan
- 3.3. Company Barricading Procedure
- 3.4. All applicable Saudi Regulatory Authority (MOROR) requirements

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and regulations

4. DEFINITIONS AND ABBREVIATIONS

4.1. Definitions

4.1.1. **COMPANY: SAUDI ELECTRIC COMPANY**

4.1.2. **CONTRACTOR: TDP (TRADING & DEVELOPMENT PARTNERSHIP)**

4.1.3. **PROJECT: UNDERGROUND CABLE**

4.2. Abbreviations

4.2.1. TDP: Trading & Development Partnership

4.2.2. HSE: Health, Safety, Environment

4.2.3. MO: Managing Office

5. RESPONSIBILITIES

5.1. Project Manager

5.1.1. The Project Manager shall be responsible for the implementation of this procedure on the Project.

5.1.2. He shall be responsible for the management of road works activities on work sites and other locations of the project in compliance with the relevant Authorities requirements (where applicable) and arrange permit to work as necessary.

5.1.3. He shall ensure, with the assistance of the Supervisors and Foremen, that all required traffic and safety signs are displayed and maintained in the designated locations, before, during and after work performed.

5.3. HSE Manager

5.3.1. The HSE Manager shall be responsible in liaison with the Project Manager for identifying the designated locations to

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display the needed traffic signs, notices and barricades.

5.3.2. He shall ensure that all traffic signs, notices and barricades requirements on work locations are fulfilled and are properly displayed and maintained in the designated locations.

5.3.3. He shall monitor the performance of roadwork and ensure compliance with the relevant Authorities requirements (where applicable) and advise Line Management accordingly.

5.3.4. He shall be responsible to disseminate the information in this procedure to all employees; especially those involved in working near or on roads and ensure training when necessary.

5.4. COMPETENT PERSON (SUPERVISOR)

5.4.1. The Competent person is the Supervisor responsible for the work. He shall be trained on the application of roadwork's planning and construction.

5.4.2. He shall coordinate with the Traffic controller to ensure that the proper traffic control systems are implemented.

5.4.3. He is responsible to ensure that all work is performed by qualified persons, experienced with this type of work.

5.5. TRAFFIC CONTROLLER

5.5.1. He shall be responsible to ensure that proper traffic control systems are implemented throughout the duration of the work, to the requirements of this procedure and to the satisfaction of the HSE Manager.

5.5.2. Shall supervise the Flagmen to control the flow of traffic.

5.6. FLAGMAN

5.6.1. Flagmen shall control the flow of traffic in a safe manner, in cases where traffic flashlights are not used.

5.6.2. A flagman, equipped with a safety vest and red flag,

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shall be posted at least 50 meters from the work site at the entrance barricade, and another flagman at the exit barricade. Both flagmen shall be in sight of each other. If conditions do not permit this, then a third man shall be positioned where he can see and be seen by the other two men, in order to signal them to start or stop traffic.

5.6.3. Shall be trained and retrained annually

5.6.4. Wear a Hi-Viz waist coat/vest

5.6.5. Be supplied with a warning flag, whistle, High Efficiency Particulate Air mask, eye protection and a hand held illuminated baton or flashlight

6. PROCEDURE

6.1. In compliance with the HSE Plan, Project Management shall ensure that all employees be informed of the potential hazards related to road works being carried out, and that the basic safety information be displayed and located in the designated areas.

6.2. The control measures and procedures described here are the minimum requirements that shall be used at all works. It should be noted that additional control may be required at particularly hazardous sites as necessary.

6.3. The route to be taken by traffic will be as clear at night or in inclement weather as it would be in normal daytime conditions.

6.4. Restrictions on working hours, or any other special conditions, imposed by the Saudi Authorities or Traffic Police shall be strictly observed.

6.5. Traffic Signs and Notices:

6.5.1. The basic traffic signs used to warn and inform road users of any works and to delineate the site are:

6.5.1.1. Traffic signs

6.5.1.2. Traffic cones, barriers, demarcation posts and tape, traffic

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beacons and flash-light

6.5.1.3. Temporary traffic signals

6.5.2. The signage associated with road works shall

6.5.2.1. Be written in both English and local languages,

6.5.2.2. Be instantly recognizable to the driver and

6.5.2.3. Guide traffic clearly and safely through the length of the work.

6.5.2.4. Traffic signs and notices may vary in colors and shapes according to the Saudi Authorities requirements.

6.5.3. The signs shall accurately reflect the situation that the driver or pedestrian will encounter when passing by or through the site.

6.5.4. In general, traffic signs shall be positioned / erected as follows, unless relevant Saudi Authorities indicate otherwise: 20 meters alternate road signage

6.5.4.1. Men Working:

6.5.4.2. Road Narrows:

6.5.4.3. Speed Limit: 40 KPH sign

6.5.4.4. Road Work Ends:

6.5.5. The position of the first sign and the spacing of the subsequent signs in advance of the hazard shall be related to speed of the passing traffic (not less than 100 meters on an operational road, and not less than 20 meters on site).

6.5.6. Flashing lights (or electric blinkers) shall be positioned alternately with traffic cones during the hours of darkness.

6.5.7. If traffic lights are not used, a flagman, equipped with a safety vest and red flag, or signage that indicates "STOP & GO" shall be posted at least 50 meters from the work site at the entrance barricade, and another flagman at the exit barricade.

6.6. Preparation for the work:

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- 6.6.1. Each road work activity will be subject to a Risk Assessment
- 6.6.2. A Method Statement will be developed for Road Work activities
- 6.6.3. In planning for and prior to the commencement of the road works, and in order to minimize hazards, the following shall be considered and implemented:
- 6.6.4. A schedule of the required traffic signs, notices and barriers should be developed in line with this procedure. For complex projects, especially those requiring diversions, a written schedule shall be provided in addition to the procedure showing both the traffic control and diversion signing. The requirements of the Saudi Traffic Police in this respect shall be observed.
- 6.6.5. Any permanent signs and/or road markings, which may be misleading to the driver should be removed or covered for the duration of the works.
- 6.6.6. Road works shall not start without prior approval of the relevant Saudi Authority
- 6.6.7. To avoid creating a traffic hazard, warning signs shall not be put in place until they are needed
- 6.6.8. Traffic signs shall be positioned / erected according to section 6.5.4.
- 6.7. All employees engaged in road works shall wear high visibility clothing, especially those responsible for setting out, moving and collecting the traffic signs and cones etc. (the visibility of these clothing should not be less than 100 meters at all times).
- 6.8. Drivers shall be guided past the obstruction safely, with shallow angles and tapers being used so as to avoid severe steering corrections.
- 6.9. Activities which create dust shall be kept to a minimum, and spraying water (when possible) in and around the work location will reduce the dust level

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6.10. Where the works are within a Security Area, special conditions may be imposed by the Security Personnel. Permits or other licenses are necessary prior to temporarily diverting traffic. Security Traffic Control Officers from the Saudi police or authorities are requested to attend at the site when diverting traffic.

6.11. Road Crossing and Diversions

6.11.1. The Project Management shall carry out a pre-construction assessment of the existing road network in order to establish efficient, economical and safe transport routes.

6.11.2. Construction works will give rise to a number of additional traffic movement within a project.

Individual traffic movement will vary according to the particular phase of the construction underway at that location and the width of the carriageway.

6.11.2.1. Where the boundary of the work site is such that the carriageway remaining for traffic has a width of less than 6 meters, alternate single file traffic working will be required.

6.11.2.2. Where the available carriageway width is 6 meters or more, or where the work is taking place on one or more lanes of one carriageway of a dual carriageway road, two-way traffic flow should be retained.

6.11.2.3. Where the work is so extensive that a road shall be closed to through traffic, a traffic diversion shall be designed in consultation with the Traffic Police. Diversion or temporary directional signing shall be provided, both in advance of the closure and through the route of the diversion.

6.12. Site Layout and Management

6.12.1. Where the works obstruct the footway or pavement, alternative routes shall be provided for pedestrians, as instructed below to protect them from any hazard.

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- 6.12.2. The site access shall have adequate sight lines and be kept clear of parked vehicles and other obstructions.
- 6.12.3. The traffic control devices shall be set out as scheduled.
- 6.12.4. All signs and other devices shall be kept clean and regularly maintained. Particular attention should be paid to cleaning the lenses of lamps and replacing their batteries and bulbs, so that they provide the required standard of illumination.
- 6.12.5. If the work proceed along the carriageway, the traffic control devices shall be relocated as necessary.
- 6.13. All plant, materials and surplus excavated material shall be contained within the barriers.
- 6.14. The site shall be kept tidy to ensure maximum safety for the workmen.
- 6.15. Local residents and business shall be given full consideration throughout the duration of the work.
Accesses should be maintained and noise levels kept to the minimum, particularly when work is in progress outside normal working hours.
- 6.16. At the end of the work, all traffic control devices shall be removed from the carriageway.
- 6.17. Any permanent signs and/or road markings that have been covered or removed shall be uncovered or reinstated.
- 6.18. Provision for pedestrians:
- 6.18.1. All obstructions and excavations on or near the footway shall be fenced off using hard barriers and signed, for the protection of pedestrians.
- 6.18.2. Temporary footways shall have a well maintained, level surface of at least 1.5 meters width and shall be kept clear of materials, plant and debris at all times.
- 6.19. Traffic signs for road works:

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6.19.1. As previously stated, signs used at road works shall be to the same standards as permanent signs..

6.19.2. Each sign used will have the identity and the name of the TDP representative clearly marked on the reverse of the sign plate, together with day-time and night-time telephone numbers which may be used in case of emergency.

6.19.3. Between the initial road works signs and the work site any one, or combination, may be used, according to the nature of the obstruction.

Traffic Speed kph	Position of first sign in advance of site Meters	Size of warning or	
		Urban Roads	Rural Roads
0- 45	5 0	60 0	75 0
45- 60	50- 150	75 0	90 0
60- 80	150- 300	90 0	120 0
Over 80	300- 500	---	150 0

6.19.4. During dusk to dawn periods, temporary electrical lighting will be used to illuminate the areas where Flagman are present and where a potential road work accident black spots exist

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6.20. Reinstatement

Upon completion of road works, the following activities shall be performed:

- 6.20.1. The surface of any highway, street, or sidewalk shall be leveled, reinstated and brought back to a good condition before any barriers and markers are removed.
- 6.20.2. Permanent road/ traffic signs and markings shall be restored and positioned properly before the roadway (traffic) is returned to normal service.
- 6.20.3. All warning devices, barriers, barricades, traffic cones and warning tape shall be promptly removed once work has been completed, inspected and approved by the relevant Authorities.
- 6.20.4. Signs and notices that are no longer valid shall be removed without delay, so as to avoid confusion and the devaluation of the credibility of signs in general

6.21. Workers Welfare

Road workers shall be provided with drinking water facilities, toilets, and shaded seating.

6.22. Transport Environmental Considerations

- 6.22.1. In conjunction with the site Environmental Plan, TDP will establish a dust suppression/ control program for:
 - 6.22.1.1. Construction road vehicle-transit dust
 - 6.22.1.2. Loading and unloading of dump trucks or tipper trucks
 - 6.22.1.3. Backfilling, compaction
 - 6.22.1.4. Imported soils will be transported with trucks and covered with tarpaulin
 - 6.22.1.5. Exported soils will be transported with trucks and covered with tarpaulin

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6.22.1.6. On site and off site road cleaning (using power sweepers and a wash-water truck equipped with wash nozzles for public roads)

6.22.1.7. Vehicle cleaning and washing facilities

5 STAR SAFETY RULE BOOK

5-Star Safety and Health Management System

CONTRACTOR'S SAFETY, HEALTH AND ENVIRONMENT RULEBOOK AND CHECKLISTS

Date: 01/01/2015	Revision:	Pages: 25
Element: 5.18.3	Safety Manual:	OHSAS:

Purpose

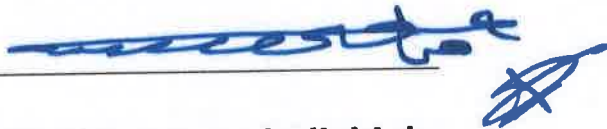
To minimize loss due to accidents, increase the work skills and safety knowledge of all Contractors and to operate in compliance with Safety, Health and Environmental (SHE) regulations

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SAUDI ELECTRICITY COMPANY (SEC)

Safety and Health Management System (5-STAR) Element (5.18.3)

CONTRACTOR'S SAFETY, HEALTH AND ENVIRONMENT RULEBOOK AND CHECKLISTS

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INTRODUCTION

The intent of this handbook is to minimize loss due to accidents, increase the work skills and safety knowledge of all Contractors and to operate in compliance with Safety, Health and Environmental (SHE) regulations.

This handbook has been developed through experience and through publications available from a number of sources. It is not all-inclusive and serves as a guideline. If you have anything to add, please contact your SEC Contract Manager.

Occupational Safety and Health Administration (OSHA), Health and Safety Executive (HSE- UK), International Labor Organization OHS (ILO), and National Fire Protection Association (NFPA) is a guidance reference if the safety issue not included in this minimum requirement.

SEC Reserves the right to update and modify the Safety, Health & Environment Requirements at any time, and the contractors must Compliance with the updated requirements even when the contract was already signed.

All contractor employees should be received at least safety induction training before involving them in any work. You can use **appendix A** as a guide for safety induction training.

SAFETY AND HEALTH POLICY

Good safety practices must be an integral part of the organization's activities and are established by executive management.

SEC's safety mission is clearly spelled out in a document called the Safety and Health Policy. This policy is the guideline for safety for Contractors.

SEC has established safe operating objectives:

- All accidents are preventable.
- Safety is a value associated with every priority.
- Prevention is our focus.
- Compliance without compromise to regulatory standards.
- Contractor involvement is key to continuous improvement in safety performance.
- No job is so important that it will be done at the expense of safety.
- Make safety communication a part of our daily activities.
- To create a partnership with our customers, contractors and suppliers in Safety and Health Management.

SAFE WORK

SEC is committed to improve the safety and health of all employees. Safety standards, rules and regulations apply to all employees, contractors and visitors. Everyone shares the responsibility to work safely by following rules, procedures and standards. Everyone shares the responsibility to prevent accidents.

We are committed, and are constantly striving, to provide a safe and healthy work environment for all. Safety is a value, linked with every priority and we have safety systems in place to make this a reality. You are the key to making our Safety and Health Management System 5-Star a success and your involvement, participation and support are vital to this success.

WE ARE SERIOUS ABOUT CONTRACTOR'S SAFETY, ARE YOU?

How can you help?

Read this safety and health rulebook. It contains valuable information, guidelines and checklists to help create a safe work environment and safe work habits. Constantly refer to it when you are uncertain about any safety issue. Remember the golden rule of safety, when in doubt, ASKS!

Follow the safety rules and procedures at all times and if you are ever in doubt, ask.

Report all injuries and property damage accidents and, most important, near miss incidents. Investigating these events will lead to the elimination of similar occurrences.

Always practice good housekeeping habits. Remember, the foundation of a good safety program is good housekeeping, which is:
A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE, ALWAYS.

Encourage your employees to observe safety rules and procedures.

KEEP A SAFETY ATTITUDE

Keeping a safety attitude means always thinking about what could go wrong so you can predict what could happen under slightly different circumstances. The key to proactive safety is not what happened, but what COULD happen!

Ask Yourself:

- What situations or actions could cause trouble?
- Could anything spill or catch fire?
- Could someone fall or trip?
- How can I correct this hazard, or report it to someone who can have it corrected?
- Should I be doing this?
- Did I leave a safety trap for someone else?
- Is there a procedure for this, is it being followed?
- Is this a critical task? Am I aware of the critical steps?
- Am I overexerting myself?
- Can I fall? / Do I need help?
- Am I authorized to operate this?
- What more can I do to make this situation safe?
- Is a short cut really worth the risk? Think about it!

You have the legal right and responsibility to have hazardous conditions corrected.

To help keep your contract area safe you will:

- Provide information about the risks that you may encounter on the job.
- Identify potential causes of job-related injury, disease or illness.
- Provide initial safety training to all contractor employees.
- Explain procedures, equipment and actions that you should take to reduce hazards and risks so that you can perform jobs safely.
- Ensure emergency and first aid plans are in place and available.
- Allow sufficient opportunity for safety meetings and discussions.
- Have a Safety Engineer and management staff assist to you in being safe at work by guiding, educating and training you in all aspects of safety.

CARDINAL RULES

No safety standard or rule should ever be broken, because they represent our commitment to the safety and health of our employees and Contractors. Standards or rules that are broken may have more severe consequences than others. The following rules are called the CARDINAL SAFETY RULES and a breach of any of these 10 rules will lead to severe disciplinary action up to and including removal from the work site irrespective of whether the breach led to an injury or not.

- Fighting for any reason is not tolerated.
- Being on the property under the influence, or being in possession, of intoxicating liquor or drugs.
- Removing a lock-out tag without authorization.

- Following the Work permit system.
- Failing to lock, tag and try out [test] when required by policy.
- Committing an intentional act or situation that demonstrates reckless disregard for your safety and/or the safety of others.
- Repeated failure or unwillingness to abide by safety rules and regulations.
- Making false statements in the course of an accident investigation or while undergoing a physical examination.
- Removing, interfering with, defacing or destroying any safety device.
- Possession of firearms or explosives while on company property without permission.

RISK ASSESSMENT

Refer to SEC Safety and Health Management System (5-STAR) element (2.11).

SAFETY MEETINGS

Safety meetings are conducted regularly to keep everyone informed and aware of current safety issues, and for the purpose of providing ongoing safety training. These meetings provide the time for all to focus on safety and to discuss any safety concerns that have not been previously addressed. We expect all Contractors to hold and to participate in these meetings.

These meetings are opportunities to discuss safety issues and problems, as well as to propose possible solutions to these problems.

A safety meeting is an ideal opportunity to ask for clarity on an issue of safety that you are unsure of.

Recall accidents and near miss incidents at these meetings so that others can learn about what happened, or could have happened.

Use the topics in this rulebook for safety meetings.

DEFINITIONS

These are a few of the different terms used in our 5-Star Safety and Health Management System, please familiarize yourself with them.

Safety:

Safety is the control of accidental loss.

Accident:

An undesired event, which causes harm (injury or ill health) to people, damage to property, or loss to the process. (Production, or business, interruption). This includes fires. (There is a loss).

Near Miss Incident:

A near miss incident is an undesired event, which, under slightly different circumstances, could have caused injury to people, damage to property, or business interruption.

Injury:

An injury is physical harm to the body as a result of contact with a source of energy greater than the threshold limit of the body.

Occupational Disease:

An occupational disease is any disease or illness, which arises out of and during the course of normal employment.

Lost Time Injury LTI:

Is defined as: Lost Time Injury (LTI 1 Day) – an injury, which results in the injured person being absent from his normal duties for one, (1) or more scheduled workdays, beyond the day (shift) of the accident. (This includes Industrial diseases and illnesses)(Day and Shift are synonymous in this context)
Any Light-Duty cases, and cases where the injured person cannot return (after an absence of one shift) to the job he was doing at the time of the accident shall be recorded as a LTI.

SAFETY AND HEALTH SYSTEM CHECKLIST

- ☐ Do you have an active safety and health program in operation that deals with general safety and health program elements as well as the management of hazards specific to your worksite?
- ☐ Is one person clearly responsible for the overall activities of the safety and health program?
- ☐ Do you have a safety committee or group made up of management and labor representatives that meet regularly and report in writing on its activities?
- ☐ Do you have a working procedure for handling in-house employee complaints regarding safety and health?
- ☐ Are you keeping your employees advised of the successful effort and accomplishments you and/or your safety committee have made in assuring they will have a workplace that is safe and healthful?

ACCIDENT, NEAR MISS INCIDENT REPORTING AND INVESTIGATING

Injuries caused by accidents in the workplace are a major source of pain, suffering and expense. We do not want anyone to get injured while at work and you will do all you can to create a safe work environment.

If one of your employees is involved in an accident at work and is injured, you are required to do the following:

- Notify your Contracts Manager and the SEC Contract Manager immediately.
- Seek medical attention as directed.
- Follow all the instructions issued by the medical attendant concerning ongoing treatment.
- Even if the injury is insignificant, report it nevertheless. Sprains and strains are sometimes worse on the day following the event.
- Investigate the accident so those steps to prevent a recurrence can be taken.

Things to remember about accident and incident reporting:

- Accident reporting forms are available from SEC.
- To report a near miss incident, at risk behavior, unsafe conditions, names and identities of the reporter or people involved are not required.
- Report all near miss incidents to your Safety Representative.
- Remember that the only difference between an accident and a near miss is the consequence.
- All property damage, business interruption and injury causing accidents must be reported immediately.
- Accidents can only be prevented if they are reported.

Refer to SEC 5-Star Safety and Health Management System element (4.2).

A SAFE WORK ENVIRONMENT

A safe work area is where certain safety items and safety standards are in order and under control. Control of the following items will provide for a safer environment. The SEC Safety and Health Management System (5-STAR) lists safety standards that are the basics for control. Here are a few of them:

- Housekeeping – Element (1.8).
- Personal Protective Equipment – Element (2.15-2.23).
- Machine Guarding – Element (2.1).
- Hazard Communication – Element (5.5).
- Lock out, tag out, try out – Element (2.2).
- Work permit – Element (5.21 -5.21.1).
- Ladders – Element (2.4).
- Electrical safety – Element (2.12).
- Hand tools – Element (2.13).
- Compressed gasses – Element (2.6).
- Cranes and lifting safety – Element (2.5).
- Forklifts and motorized vehicles – Element (2.5 / 2.9).

BE AWARE OF THESE COMMON HAZARDS IN YOUR AREA

- Uneven floors
- Moving machinery
- Vehicles
- Chemicals
- Electricity
- Heavy Loads
- Elevated work platforms (working at height)
- Confined spaces
- Fall hazards
- Fire and explosion hazards
- Noise, dusts, fumes
- Loose ground and in surface
- Floor openings
- Damaged equipment
- Suspended loads
- Repetitive motion tasks
- Dusts containing, silica or other hazardous substance

GENERAL CONTRACT WORK ENVIRONMENT CHECKLIST

- ☐ Are all work sites clean, sanitary, and orderly?
- ☐ Are work surfaces kept dry or appropriate means taken to assure the surfaces are slip-resistant?
- ☐ Are all spilled hazardous materials or liquids, including blood and other potentially infectious materials, cleaned up immediately and according to proper procedures?
- ☐ Are combustible scrap, debris and waste stored safely and removed from the work site promptly?
- ☐ Are accumulations of combustible dust routinely removed from elevated surfaces including the overhead structure of buildings, etc.?
- ☐ Is combustible dust cleaned up with a vacuum system to prevent the dust going into suspension?
- ☐ Is metallic or conductive dust prevented from entering or accumulating on or around electrical enclosures or equipment?
- ☐ Are covered metal waste cans used for oily and paint soaked waste?
- ☐ Are paint spray booths, dip tanks, etc., cleaned regularly?
- ☐ Are the minimum numbers of toilets and washing facilities provided?
- ☐ Are all toilets and washing facilities clean and sanitary?
- ☐ Are all work areas adequately illuminated?

- ☐ Are pits and floor openings covered or otherwise guarded?
- ☐ Have all confined spaces been evaluated?

CONTRACT AREA WALKWAY CHECKLIST

- ☐ Are aisles and passageways kept clear?
- ☐ Are aisles and walkways marked as appropriate?
- ☐ Are wet surfaces covered with non-slip materials?
- ☐ Are holes in the floor, sidewalk or other walking surface repaired properly, covered or otherwise made safe?
- ☐ Is there safe clearance for walking in aisles where motorized or mechanical handling equipment is operating?
- ☐ Are materials or equipment stored in such a way that sharp projections will not interfere with the walkway?
- ☐ Are spilled materials cleaned up immediately?
- ☐ Are changes of direction or elevations readily identifiable?
- ☐ Are aisles or walkways that pass near moving or operating machinery, welding operations or similar operations arranged so employees will not be subjected to potential hazards?
- ☐ Is adequate headroom provided for the entire length of any aisle or walkways?
- ☐ Are standard guardrails provided wherever aisle or walkway surfaces are elevated more than 30 inches (76.20 centimeters) above any adjacent floor or the ground?
- ☐ Are bridges with handrails provided over trenches, conveyors and similar hazards?

ELEVATED SURFACES CHECKLIST (WORKING AT HEIGHT)

- ☐ Are signs posted, when appropriate, showing the elevated surface load capacity?
- ☐ Are surfaces elevated more than 30 inches (76.20 centimeters) above the floor or ground provided with standard guardrails?
- ☐ Are all elevated surfaces (beneath which people or machinery could be exposed to falling objects) provided with standard 4-inch (10.16 centimeters) toe boards?
- ☐ Are a permanent means of access and egress provided to elevated storage and work surfaces?
- ☐ Is required headroom provided where necessary?
- ☐ Is material on elevated surfaces piled, stacked or racked in a manner to prevent it from tipping, falling, collapsing, rolling or spreading?

FLOOR AND WALL OPENINGS CHECKLIST

- ☐ Are floor openings guarded by a cover, a guardrail, or equivalent on all sides? (except at entrance to stairways or ladders)
- ☐ Are toe boards installed around the edges of permanent floor opening (where persons may pass below the opening)?
- ☐ Are skylight screens of such construction and mounting that they will withstand a load of at least 200 pounds (90 kilograms)?
- ☐ Are grates or similar type covers over floor openings such as floor drains of such design that foot traffic or rolling equipment will not be affected by the grate spacing?
- ☐ Are unused portions of service pits and pits not actually in use either covered or protected by guardrails or equivalent?
- ☐ Are manhole covers, trench covers and similar covers, plus their supports designed to carry a truck rear axle load of at least 20,000 pounds (9000 kilograms) when located in roadways and subject to vehicle traffic?
- ☐ Are floor or wall openings in fire resistive construction provided with doors or covers compatible with the fire rating of the structure and provided with a self-closing feature when appropriate?

STAIRS AND STAIRWAYS CHECKLIST

- ☐ Are standard stair rails or handrails on all stairways having four or more risers?
- ☐ Are all stairways at least 22 inches (55.88 centimeters) wide?
- ☐ Do stairs have landing platforms not less than 30 inches (76.20 centimeters) in the direction of travel and extend 22 inches (55.88 centimeters) in width at every 12 feet (3.6576 meters) or less of vertical rise?
- ☐ Do stairs angle no more than 50 and no less than 30 degrees?
- ☐ Do stairs of hollow-pan type treads and landings filled to the top edge of pan with solid material?
- ☐ Are step risers on stairs uniform from top to bottom?
- ☐ Are steps on stairs and stairways designed or provided with a surface that renders them slip resistant?
- ☐ Are stairway handrails located between 30 (76.20 centimeters) and 34 inches (86.36 centimeters) above the leading edge of stair treads?
- ☐ Do stairway handrails have at least 3 inches (7.62 centimeters) of clearance between the handrails and the wall or surface they are mounted on?

- ☐ Where doors or gates open directly on a stairway, is there a platform provided so the swing of the door does not reduce the width of the platform to less than 21 inches (53.34 centimeters)?
- ☐ Are stairway handrails capable of withstanding a load of 200 pounds (90 kilograms) applied within 2 inches (5.08 centimeters) of the top edge, in any downward or outward direction?
- ☐ Where stairs or stairways exit directly into any area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees stepping into the path of traffic?
- ☐ Do stairway landings have a dimension measured in the direction of travel, at least equal to the width of the stairway?
- ☐ Is the vertical distance between stairway landings limited to 12 feet (3.6576 meters) or less?

HOUSEKEEPING

Good housekeeping is the foundation of a safe, healthy and pleasant workplace. It is essential that all contract areas be kept clean, orderly, and with all necessary things in the proper places. This improves safety, efficiency and quality at the same time.

Good housekeeping is a day-to-day activity and should not be viewed as a separate task or something to do after the shift. Clean up time is all the time! Contractors are responsible for housekeeping in their area. Contractors should be aware of hazards arising from poor housekeeping. Conditions that cannot be immediately rectified should be reported to the site manager or supervisor.

Housekeeping Guidelines

- Keep work areas neat and clean. Tripping or slipping hazards such as tools, materials and spills should be corrected immediately.
- Store tools safely. Place equipment and supplies in their correct places.
- Keep stairways, hallways, and other walkways free of debris, hoses and other obstructions. Put trash in approved containers.
- Bend over or remove protruding objects such as nails, spikes, wire or other sharp points.
- Keep workbenches and stations free from items that are not being used or worked on at present.
- Place oily rags in the metal containers provided.
- Paper cups, plates, and lunch debris, including trash must be thrown in the appropriate trashcans.
- To avoid skin irritations, wash frequently, using soap and water. Wear gloves when handling substances that may cause irritation.
- The inside of all vehicles should be kept clean and free from excessive, unnecessary items.
- Cigarette ends belong in containers provided.

Employee's Housekeeping Responsibility

Good housekeeping is a team effort and a team is made up of individuals. The contractor employee's responsibility, is as follows:

- To keep work areas clean, neat, tidy and free from excessive material at all times.
- To clean machines and equipment after each shift and to keep them clean during the shift.
- To constantly put trash in the proper trash bins, scrap in the scrap bins and recyclable materials in the designated bins with lids.
- To keep the floors free from excessive material.
- To ensure that aisles and walkways are clear, unobstructed and in good order.
- To ensure that materials are stacked correctly and safely in the correct places.
- To do an informal housekeeping inspection of the area on a daily basis and to rectify housekeeping hazards.
- To monitor that no items are stacked in no stacking areas such as under fire equipment and electrical switchgear.
- Report faded housekeeping notices and signs.
- Always return tools to their correct place after use.
- Ensure that spill and other tripping \ slipping hazards are cleaned up or fixed.

REMEMBER, A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE, ALWAYS!

Golden Housekeeping Rules

These few simple rules, when applied, will help maintain housekeeping at all times.

- If you remove something, replace it.
- If you unlock it, lock it.
- If you open it, close it.
- If you switched it on, did you switch it off?
- If you break it, fix it, if you borrowed it, look after it, if you use it, look after it as if it were yours.
- If it is not yours, ask permission first, if you have not been trained to do it, don't do it, do not interfere if it does not concern you.
- If you spill it, wipe it up.
- If you mess up, clean up, if you remove, replace.
- To get others to follow, set the example.
- You are the champion of good housekeeping.
- Teach others that neatness is an important part of maintaining a safe environment.

Refer to *SEC Safety and Health Management System (5-STAR) element (1.8)*.

KEEP YOUR BACK INJURY FREE

Many tasks require routine lifting activities. Lifting the wrong way can lead to serious back injuries. The following guidelines are given for safe lifting and should be followed each time you lift irrespective of the weight or size of the load being lifted.

- The first choice is always, "Can this load be lifted or moved mechanically?"
- If in doubt as to the weight or your own lifting capabilities, get help.
- Plan the lift ahead.
- Gently stretch the muscles to warm up before a lift.
- Only lift and carry what you can safely handle.
- Use the golden rule of lifting...**BEND YOUR KNEES!**
- Keep the back straight.
- Never twist while lifting or carrying.
- Carry the load close to your body to reduce strain.
- Elbows close to your sides.
- Lower loads slowly, bending the knees at the same time.
- Ensure you can see over the top of the load at all times.
- Ensure a safe footing when lifting.
- When carrying a load, check that the walkway is clear.
- Set the load down in the same manner.
- Get help if needed.

MACHINE SAFETY

Machines make work easier and more efficient. However, they introduce a risk to the operator if not operated correctly. For your protection machines have machine guards or other means are used to ensure you do not come into contact with moving parts.

Always respect machines as they have the ability to cause permanent and severe injuries if the rules and procedures aren't followed, especially during inspection and maintenance periods. Some of the machine hazards in your work area may include:

Respect Machine Guards

Machine guards form a barrier between you and potential pinch points and help reduce the possibility of contact with these moving parts.

- ☐ Guards must always be fixed in place.
- ☐ Work permit, lock-out and try out before removing a guard, and always replace the guard correctly before re-starting the machine.
- ☐ Respect interlock guards, mechanical and electrical.
- ☐ Do not bring unguarded/insufficiently-guarded equipment onto the contract workplace.

TYPES OF GUARDS

Fixed Guards:

These include fences, gates and protective covers. They provide a barrier between the operator and the pinch point.

Interlock Guards:

These guards disconnect the power as soon as a barrier or device is removed.

Automatic Guards:

These guards guard the danger by automatically introducing a barrier between the danger and the operator before they will operate.

MACHINE SAFETY GUIDELINES:

- Never remove guards or operate a piece of equipment without proper guarding.
- Never reach around or under a guard.
- Do not make holes in guards or reduce their efficiency in any way.
- Always report a missing or inadequate guard.
- Remember, work permit, lock out, tag out, and try out before removing a guard.
- Ensure guards are securely fastened in place.
- Do not wear loose clothing and/or jewelry in the vicinity of moving machinery.
- Inspect guards on a frequent basis.
- If you have any doubt, ask!

MACHINE GUARDING CHECKLIST

- ☐ Is there a training program to instruct employees on safe methods of machine operation?
- ☐ Is there adequate supervision to ensure that employees are following safe machine operating procedures?
- ☐ Is there a regular program of safety inspection of machinery and equipment?
- ☐ Is all machinery and equipment kept clean and properly maintained regularly?
- ☐ Is sufficient clearance provided around and between machines to allow for safe operations, set up and servicing, material handling and waste removal?
- ☐ Is equipment and machinery securely placed and anchored, when necessary to prevent tipping or other movement that could result in personal injury?
- ☐ Is there a power shut-off switch within reach of the operator's position at each machine and is it unobstructed?
- ☐ Can electric power to each machine be locked out for maintenance, repair or security?
- ☐ Is the non-current carrying metal parts of electrically operated machines bonded and grounded?

- ☐ Are foot-operated switches guarded or arranged to prevent accidental actuation by personnel or falling objects?
- ☐ Are manually operated valves and switches controlling the operation of equipment and machines clearly identified and readily accessible?
- ☐ Are all emergency stop buttons colored red?
- ☐ Are all pulleys and belts that are within 7 feet (2.1 meters) of the floor or working level properly guarded?
- ☐ Are all moving chains and gears properly guarded?
- ☐ Are splashguards mounted on machines that use coolant to prevent the coolant from reaching employees?
- ☐ Are methods provided to protect the operator and other employees in the machine area from hazards created at the point of operation, in-going nip points, rotating parts, flying chips, and sparks?
- ☐ Are machinery guards secure and so arranged that they do not offer a hazard in their use?
- ☐ If special hand tools are used for placing and removing material, do they protect the operator's hands?
- ☐ Do arbors and mandrels have firm and secure bearings and are they free from play?
- ☐ Are provisions made to prevent machines from automatically starting when power is restored after a power failure or shutdown?
- ☐ Are machines constructed so as to be free from excessive vibration when the largest size tool is mounted and run at full speed?
- ☐ If machinery is cleaned with compressed air, is air pressure controlled and personal protective equipment or other safeguards utilized to protect operators and other workers from eye and body injury?
- ☐ Are fan blades protected with a guard having openings no larger than ½ inch (1.27centimeters), when operating within 7 feet (2.1 meters) of the floor?
- ☐ Are saws used for ripping, equipped with anti-kick back devices and spreaders?
- ☐ Are radial arm saws so arranged that the cutting head will gently return to the back of the table when released?

Refer to SEC Safety and Health Management System (5-STAR) element (2.1).

DEMARICATION

Demarcation is intended to help the safety process and housekeeping, by ensuring there is a place for everything and everything is in its place, all the time.

Here are some practical guidelines concerning demarcation:

- Always observe the demarcation lines, barriers, and handrails.
- Do not stack or store articles in "No Stacking", areas.
- Keep areas below switchgear, eyewash stations and fire extinguishers clear.
- Only park vehicles in a demarcated parking area.
- Some demarcations may call for special personal protective equipment - observe them.
- Do not stack materials and goods in a non-demarcated area.
- If you observe trespassing of demarcation, report it.
- Remember that demarcation helps create order and order makes the work areas safe.

Refer to SEC Safety and Health Management System (5-STAR) element (1.6).

STACKING AND STORAGE

To maintain good housekeeping practices, good stacking and storage of materials, goods and supplies is essential. Follow these basic stacking rules and apply them all the time.

- Ensure that all stacks are bonded. Interlocked, tied in, intertwined.
- Always stack heavy items on the bottom.
- Use proper storage racks where possible.
- Check the load rating of the floor before stacking on it.
- Always break down a stack from the top; never take items from the bottom.
- Get help if the items are heavy or if you are unsure.
- Never allow anyone to climb up on a stack or on stacked material.
- Leaning or unstable stacks must be broken down and safely rebuilt.
- Never stack higher than 3 times the length of the narrowest base.
- Allow access for fork trucks and foot traffic if necessary.
- Stack within demarcated stacking areas.
- Do not stack items on top of cabinets.
- Stacking within cabinets must be neat and tidy.
- Are all storage racks securely fastened so they will not fall?
- Use correct access to storage racks.
- Do not allow pipes or lengths of material to protrude from storage racks.

Refer to SEC Safety and Health Management System (5-STAR) element (1.7).

MATERIAL HANDLING CHECKLIST

- ☐ Is there safe clearance for equipment through aisles and doorways?
- ☐ Are aiseways designated, permanently marked and kept clear to allow unhindered passage?
- ☐ Are motorized vehicles and mechanized equipment inspected daily or prior to use?
- ☐ Are vehicles shut off and brakes set prior to loading and unloading?
- ☐ Are containers of combustibles or flammables, when stacked while being moved, always separated by dunnage sufficient to provide stability?
- ☐ Are dock boards (bridge plates) used when loading or unloading operations are taking place between vehicles and docks?
- ☐ Are trucks and trailers secured from movement during loading and unloading operations?
- ☐ Are dock plates and loading ramps constructed and maintained with sufficient strength to support imposed loading?
- ☐ Are hand trucks maintained in safe operating condition?
- ☐ Are chutes equipped with sideboards of sufficient height to prevent the material being handled from falling off?
- ☐ Are chutes and gravity roller sections firmly placed or secured to prevent displacement?
- ☐ At the delivery end of the rollers or chutes are provisions made to brake the movement of the handled materials?
- ☐ Are pallets usually inspected before being loaded or moved?
- ☐ Are hooks with safety latches or other arrangements used when hoisting materials so that slings or load attachments won't accidentally slip off the hoist hooks?
- ☐ Are securing chains, ropes, chokers or slings adequate for the job to be performed?
- ☐ When hoisting material or equipment is provision made to assure no one will be passing under the suspended loads?
- ☐ Are material safety data sheets (MSDS) available to employees handling hazardous substances?

HAND TOOLS

Surprisingly enough, a large percentage of injuries experienced at work are as a result of hand tools. Either using the wrong hand tool for the job or using it incorrectly. For personal safety ensure your employees follow these basic hand tool guidelines.

- Always use the right tool for the task.
- Take the time to locate the right tool.
- Keep tools in a safe and clean condition.
- Never throw hand tools to another person pass them.
- Dress the heads of chisels regularly.
- Keep screwdriver tips in a good condition.
- Carry tools in a tool belt or other safe means of transport.
- Use the correct size wrench for the nut.
- Use blade guards on knives.
- Store tools correctly and safely.
- Inspect tools on a regular basis and rectify any deficiencies.
- Use explosive powered tools only if you have been trained and authorized to do so.
- Do not play practical jokes with hand tools.
- Never leave tools lying on top of a ladder or other elevated place.
- Pack tools away at the end of each shift.

REMEMBER YOUR MOST VALUABLE TOOLS ARE YOUR HANDS
TAKE CARE OF THEM!

HAND TOOLS AND EQUIPMENT CHECKLIST

- ☐ Do employees use all tools and equipment in good condition at their workplace (both company and employee owned)?
- ☐ Are hand tools such as chisels and punches, which develop mushroomed heads during use, reconditioned or replaced as necessary?
- ☐ Are broken or fractured handles on hammers, axes and similar equipment replaced promptly?
- ☐ Are worn or bent wrenches replaced regularly?
- ☐ Are appropriate handles used on files and similar tools?
- ☐ Are employees made aware of the hazards caused by faulty or improperly used hand tools?
- ☐ Are appropriate safety glasses, face shields, etc. used while using hand tools or equipment that might produce flying materials or be subject to breakage?
- ☐ Are jacks checked periodically to ensure they are in good operating condition?
- ☐ Are tool handles wedged tightly in the head of all tools?

HAND TOOLS AND EQUIPMENT CHECKLIST (continued)

- ☐ Are tool cutting edges kept sharp so the tool will move smoothly without binding or skipping?
- ☐ Are tools stored in dry, secure location where they won't be tampered with?
- ☐ Is eye and face protection used when driving hardened or tempered studs or nails?

Refer to *SEC Safety and Health Management System (5-STAR) element (2.13)*.

PORTABLE (POWER OPERATED) TOOLS AND EQUIPMENT CHECKLIST

- ☐ Are grinders, saws and similar equipment provided with appropriate safety guards?
- ☐ Are power tools used with the correct shield, guard, or attachment, recommended by the manufacturer?
- ☐ Are portable circular saws equipped with guards above and below the base shoe?
- ☐ Are circular saw guards checked to assure they are not wedged up, thus leaving the lower portion of the blade unguarded?
- ☐ Are rotating or moving parts of equipment guarded to prevent physical contact?
- ☐ Are all cord connected, electrically operated tools and equipment effectively earthed or of the approved double insulated type?
- ☐ Are effective guards in place over belts, pulleys, chains, sprockets, on equipment such as concrete mixers, and air compressors?
- ☐ Are portable fans provided with full guards or screens having openings ½ inch (1.2 centimeters) or less?
- ☐ Is hoisting equipment available and used for lifting heavy objects, and are hoist ratings and characteristics appropriate for the task?
- ☐ Are earth leakage circuit interrupters (GFCI's) provided on all temporary electrical 15 and 20-ampere circuits, used during periods of construction?
- ☐ Are pneumatic and hydraulic hoses on power operated tools checks regularly for deterioration or damage?

ABRASIVE WHEEL EQUIPMENT-GRINDERS CHECKLIST

- ☐ Is the work rest used and kept adjusted to within 1/8 inch (3mm) of the wheel?
- ☐ Is the adjustable tongue on the top side of the grinder used and kept adjusted to within 1/4 inch or 0.6350 centimeters of the wheel?
- ☐ Do side guards cover the spindle, nut and flange and 75% of the wheel diameter?
- ☐ Are bench and pedestal grinders permanently mounted?
- ☐ Are goggles or face shields always worn when grinding?
- ☐ Is the maximum RPM rating of each abrasive wheel compatible with the RPM rating of the grinder motor?
- ☐ Are fixed or permanently mounted grinders connected to their electrical supply system with metallic conduit or other permanent wiring method?
- ☐ Does each grinder have an individual on and off control switch?
- ☐ Is each electrically operated grinder effectively earthed?
- ☐ Before new abrasive wheels are mounted, are they visually inspected and ring tested?
- ☐ Are dust collectors and powered exhausts provided on grinders used in operations that produce large amounts of dust?
- ☐ Are splashguards mounted on grinders that use coolant to prevent the coolant reaching employees?
- ☐ Is cleanliness maintained around grinders?

POWDER-ACTUATED TOOLS CHECKLIST

- ☐ Are employees who operate powder-actuated tools trained in their use and carry a valid operator's card?
- ☐ Is each powder-actuated tool stored in its own locked container when not being used?
- ☐ Is a sign at least 7 inches (17.78 centimeters) by 10 inches (25.40 centimeters) with bold face type reading "POWDER-ACTUATED TOOL IN USE" conspicuously posted when the tool is being used?
- ☐ Are powder-actuated tools left unloaded until they are actually ready to be used?
- ☐ Are powder-actuated tools inspected for obstructions or defects each day before use?
- ☐ Do powder-actuated tool operators have and use appropriate personal protective equipment such as hard hats, safety goggles, safety shoes and ear protectors?

Refer to SEC Safety and Health Management System (5-STAR) element (2.10).

WELDING, CUTTING AND BRAZING CHECKLIST

- ☐ Are only authorized and trained personnel permitted to use welding, cutting or brazing equipment?
- ☐ Does each operator have a copy of the appropriate operating instructions and are they directed to follow them?
- ☐ Are compressed gas cylinders regularly examined for obvious signs of defects, deep rusting, or leakage?
- ☐ Is care used handling and storing cylinders, safety valves, and relief valves to prevent damage?
- ☐ Are precautions taken to prevent the mixture of air or oxygen with flammable gasses, except at a burner or in a standard torch?
- ☐ Are only approved apparatus (torches, regulators, pressure reducing valves, acetylene generators, manifolds) used?
- ☐ Are cylinders kept away from sources of heat?
- ☐ Are the cylinders kept away from elevators, stairs, or gangways?
- ☐ Is it prohibited to use cylinders as rollers or supports?
- ☐ Are empty cylinders appropriately marked and their valves closed?
- ☐ Are signs reading: DANGER - NO SMOKING, MATCHES, OR OPENLIGHTS, or the equivalent, posted?
- ☐ Are cylinders, cylinder valves, couplings, regulators, hoses, and apparatus kept free of oily or greasy substances?
- ☐ Is care taken not to drop or strike cylinders?
- ☐ Unless secured on special trucks, are regulators removed and valve-protection caps put in place before moving cylinders?
- ☐ Do cylinders without fixed hand wheels have keys, handles, or non-adjustable wrenches on stem valves when in service?
- ☐ Are liquefied gases (e.g. Acetylene) stored and shipped valve-end up with valve covers in place?
- ☐ Are provisions made to never crack a fuel gas cylinder valve near sources of ignition?
- ☐ Before a regulator is removed, is the valve closed and gas released from the regulator?
- ☐ Is red used to identify the acetylene (and other fuel, gas) hose, green for oxygen hose, and black for inert gas and air hose?
- ☐ Are pressure-reducing regulators used only for the gas and pressures for which they are intended?
- ☐ Is open circuit (No Load) voltage of arc welding and cutting machines as low as possible and not in excess of the recommended limits?

- ☐ Under wet conditions, are automatic controls for reducing no load voltage used?
- ☐ Is the earth of the machine frame and safety earth connections of portable machines checked periodically?
- ☐ Are electrodes removed from the holders when not in use?
- ☐ Is it required that electric power to the welder be shut off when no one is in attendance?
- ☐ Is suitable fire extinguishing equipment available for immediate use?
- ☐ Is the welder forbidden to coil or loop welding electrode cable around his body?
- ☐ Are wet machines thoroughly dried and tested before being used?
- ☐ Are electrode lead cables frequently inspected for wear and damage, and replaced when needed? Separate earth cables must be used, not the structure!
- ☐ Do means for connecting cable lengths have adequate insulation?
- ☐ When the object to be welded cannot be moved and fire hazards cannot be removed, are shields used to confine heat, sparks and slag?
- ☐ Are firewatchers assigned when welding or cutting is performed in locations where a serious fire might develop?
- ☐ Are combustible floors kept wet, covered by damp sand, or protected by fire-resistant shields?
- ☐ When floors are wet down, are personnel protected from possible electrical shock?
- ☐ When welding is done on metal walls, are precautions taken to protect combustibles on the other side?
- ☐ Before hot work is begun, are used drums, barrels, tanks, and other containers so thoroughly cleaned that no substances remain that could explode, ignite, or produce toxic vapors?
- ☐ Is it required that eye protection helmets, hand shields and goggles meet appropriate standards?
- ☐ Are employees exposed to the hazards created by welding, cutting, or brazing operations protected with personal protective equipment and clothing?
- ☐ Is a check made for adequate ventilation in and where welding or cutting is performed?
- ☐ When working in confined places, are environmental monitoring tests taken and means provided for quick removal of welders in case of an emergency?

ELECTRICAL SAFETY

Unsafe electrical conditions have high potential for injury and even death due to electrical shock. Unsafe acts can have the same consequences. The most important rule concerning electrical safety is not to interfere with or work on any electrical installation if you are not authorized or qualified to.

Follow the basic electrical safety rules and report any unsafe electrical wiring or situations.

PROTECT EMPLOYEES FROM ELECTRICAL HAZARDS:

- Only qualified employees are authorized to perform electrical jobs.
- If you employees work with electricity always ensure that they wear the suitable protective equipment prescribed.
- Always use work permit, lock out, tag out, and try out when working with or around electrical apparatus.
- Have respect for portable electrical equipment – 220-volts can electrocute.
- Never handle electrical equipment with bare hands.
- Obey all warning signs.
- Do not use any equipment that has defective parts or loose electrical connections.
- Use a portable earth leakage protection when required, e.g., in damp areas, in confined spaces, or in the vicinity of grounded structures.
- Always use a plug top – never insert the wires into a socket without one!
- Never use adapters.
- Do not let temporary wiring become permanent.
- Read and understand the SEC work permit, Lock-out, Tag-out safety standards.

ELECTRICAL CHECKLIST

- ☐ Are all employees required to report as soon as practicable any obvious hazard to life or property observed in connection with electrical equipment or lines?
- ☐ Are employees instructed to make preliminary inspections and/or appropriate tests to determine what conditions exist before starting work on electrical equipment or lines?
- ☐ When electrical equipment or lines are to be serviced, maintained or adjusted are necessary switches opened, locked out and tagged whenever possible?
- ☐ Are portable electrical tools and equipment grounded or of the double insulated type?
- ☐ Are electrical appliances such as vacuum cleaners, polishers and vending machines earthed?

- ☐ Do extension cords being used have a earth conductor?
- ☐ Are multiple plug adapters prohibited?
- ☐ Are earth leakage circuit interrupters (GFCI's) installed on each temporary 15 or 20-ampere, 220-volt AC circuit at locations where construction, demolition, modifications, alterations or excavations are being performed?
- ☐ Do suitable disconnecting switches or plug connectors at the junction with permanent wiring protect all temporary circuits?
- ☐ Do you have electrical installations in hazardous dust or vapor areas?
- ☐ Is exposing wiring and cords with frayed or deteriorated insulation repaired or replaced promptly?
- ☐ Are flexible cords and cables free of splices or taps?
- ☐ Are clamps or other securing means provided on flexible cords or cables at plugs, receptacles, tools, equipment, etc. and is the cord jacket securely held in place?
- ☐ Are all cord, cable and raceway connections intact and secure?
- ☐ In wet or damp locations, are electrical tools and equipment appropriate for the use or location or otherwise protected?
- ☐ Is the location of electrical power lines and cables (overhead, underground, under floor, other side of walls) determined before digging, drilling or similar work is begun?
- ☐ Are metal measuring tapes, ropes, hand lines or similar devices with metallic thread woven into the fabric prohibited where they could come in contact with energized parts of equipment or circuit conductors?
- ☐ Is the use of metal ladders prohibited in areas where the ladder or the person using the ladder could come in contact with energized parts of equipment, fixtures or circuit conductors?
- ☐ Are all disconnecting switches and circuit breakers labeled to indicate their use or equipment served?
- ☐ Are disconnecting means always opened before fuses are replaced?
- ☐ Do all interior wiring systems include provisions for grounding metal parts of electrical raceways, equipment and enclosures?
- ☐ Are all electrical raceways and enclosures securely fastened in place?
- ☐ Are all energized parts of electrical circuits and equipment guarded against accidental contact by approved cabinets or enclosures?
- ☐ Is sufficient access and working space provided and maintained about all electrical equipment to permit ready and safe operations

- ☐ Are all unused openings (including conduit knockouts) in electrical enclosures and fittings closed with appropriate covers, plugs or plates?
 - ☐ Are electrical enclosures such as switches, receptacles and junction boxes provided with tight fitting covers or plates?
 - ☐ Are disconnecting switches for electrical motors in excess of two horsepower, capable of opening the circuit when the motor is in a stalled condition, without exploding? (Switches must be horsepower rated equal to or in excess of the motor hp rating.)
 - ☐ Is low voltage protection provided in the control device of motors driving machines or equipment that could cause probable injury from inadvertent starting?
 - ☐ Is each motor disconnecting switch or circuit breaker located within sight of the motor control device?
 - ☐ Is each motor located within sight of its controller or the controller disconnecting means capable of being locked in the open position or is a separate disconnecting means installed in the circuit within sight of the motor?
 - ☐ Are employees who regularly work on or around energized electrical equipment or lines instructed in the cardiopulmonary resuscitation (CPR) methods?
 - ☐ Are employees prohibited from working alone on energized lines or equipment over 600 volts?
- Refer to SEC Safety and Health Management System (5-STAR) element (2.12/5.21.1).*

WORK PERMIT

Refer to SEC Safety and Health Management System (5-STAR) element (5.21/5.21.1).

LOCKOUT, TAGOUT, TRYOUT, FOR YOUR PROTECTION

Whenever a machine or system requires maintenance or repair, the sources of energy feeding that machine or system must be turned off and locked in the off position to protect the repair crew from accidental start up of the equipment.

The energy sources may be one or a combination of electrical, pneumatic, hydraulic, mechanical, or gravity. All sources must be isolated and locked in the off position with locks issued as part of the company's lockout standard. Stored energy must be released before work commences.

Lockout protects the worker who identifies the sources of energy, locks them out and keeps the controls with a tag attached in the standard

Before any work is carried out, the circuits are tested/tried out to reconfirm that the correct ones have been isolated.

The lockout tag also warns others in the area who locked out the machine and why. Only the person who placed the lock and tag/or the designated employee performing the lock out can remove the lock.

Cutting or otherwise removing a lockout device that is not yours is a breach of one of the cardinal safety rules and will result in serious consequences.

Only authorized and qualified personnel can lock out. Check your own position, and if you are not authorized but need a machine locked out, contact your site Contract Manager for advice.

LOCKOUT PROCEDURE STEPS

- Make sure you are authorized to lock out. If not get help!
- Identify the correct piece of equipment.
- Identify all sources of stored energy, [pressure, gravity, electrical static or charge etc.]
- Switch off all sources after obtaining clearance to do so.
- Lock all controls in the "OFF" position.
- Fill out and hang tags. Fasten securely.
- Test all controls to ensure the equipment is de-energized, then recheck.
- Ensure all guards are replaced and everything is in order before restarting this machine.
- When the task is complete, warn all in the vicinity that you are about to restart the machine.

LOCKOUT / TAGOUT PROCEDURES CHECKLIST

- ☐ Is all machinery or equipment capable of movement, de-energized or disengaged and locked-out during cleaning, servicing, adjusting or setting up operations, whenever required?
- ☐ Where the power disconnecting means for equipment does not also disconnect the electrical control circuit are the appropriate electrical enclosures identified? Is means provided to assure the control circuit can also be disconnected and locked-out?
- ☐ Are all equipment control valve handles provided with a means for locking-out?
- ☐ Does the lock-out procedure require that stored energy (mechanical, hydraulic, air, etc.) be released or blocked before equipment is locked-out for repairs?
- ☐ Are appropriate employees provided with individually keyed personal safety locks?
- ☐ Are employees required to keep personal control of their key(s) while they have safety locks in use?

- ☐ Is it required that only the employee exposed to the hazard, place or remove the safety lock?
- ☐ Is it required that employees check the safety of the lock-out by attempting a startup after making sure no one is exposed?
- ☐ Are employees instructed to always push the control circuit stop button immediately after checking the safety of the lock-out?
- ☐ Is there a means provided to identify any or all employees who are working on locked-out equipment by their locks or accompanying tags?
- ☐ Are a sufficient number of accident preventive signs or tags and safety padlocks provided for any reasonably foreseeable repair emergency?
- ☐ When machine operations, configuration or size requires the operator to leave his or her control station to install tools or perform other operations, and that part of the machine could move if accidentally activated, is such element required to be separately locked or blocked out?
- ☐ In the event that equipment or lines cannot be shut down, locked-out and tagged, is a safe job procedure established and rigidly followed?

Refer to *SEC Safety and Health Management System (5-STAR) element (2.2).*

LADDER SAFETY

Every year people are injured as a result of ladder accidents. Falls and other accident types are only as a result of two situations with ladders.

1. Using a ladder that is in an unsafe condition.
2. Using a ladder for the wrong application.

These basic ladder safety rules will ensure that the two main accident causation factors are eliminated.

Contractors should inspect ladders for defects before each use.

The following items should be checked:

- Condition of rungs and uprights.
- Non-slip feet or retainers.
- Spreaders, ropes and hinges.
- Firmness of ladder, does it wobble?
- Is this the right ladder for the task?
- Is fall protection required?
- Check and recheck before using.
- Is the footing level and unobstructed?
- Defective ladders should not be used and should be taken out of service immediately.

- Use the correct length ladder. Ladders should extend a minimum of 3 feet (1 M) above the access area.
- Stepladders shall not be used as straight ladders.
- Ladders are not walking boards!
- Use a rope to haul tools etc. up to an elevated work platform.
- Climb a ladder with both hands.
- Never "walk", a ladder, get down and move it.
- Straight ladders must be placed with the ratio of 1 horizontal distance for every 4 vertical height.
- Place ladders correctly so as to avoid leaning. [Keep your belt buckle between the uprights].
- Ladders must have some form of anti-slip feet.
- Tie straight ladders at the top to keep them secure.
- Always face the ladder when climbing up or down.
- Do not place ladders in front of doorways or other traffic areas. If you must, place a guard or lock the entrance or passage.
- Never stand on the top rung of a ladder.
- Wood or fiberglass ladders should be used near electrical conductors.
- Metal ladders should never be used near electrical switchgear or conductors.

Refer to SEC Safety and Health Management System (5-STAR) element (2.4).

COMPRESSED GASSES

Compressed gas cylinders are potentially hazardous and must be treated with respect. To avoid accidents, which could cause not only personal injury, but also property damage or fire, the following precautions should be taken when working with or around compressed gas cylinders.

- Handle full and empty cylinders with extreme care.
- Do not lay cylinders flat and roll them. Rotate them on their bases to move them.
- Store all cylinders out of direct sunlight and away from sources of heat.
- Do not allow cylinders to be bumped.
- Store all cylinders vertical and support them by securing with chains or rope, [not wire].
- Flammable gasses must be stored separate from oxygen.
- Never use a cylinder as a roller.
- Do not weld on a cylinder or deface it in anyway.
- Safety caps must be used on all cylinders not in immediate use.
- Keep oil and grease away from oxygen cylinders.
- Mark cylinders "MT" when empty.
- Ensure the gas valve is closed at the bottle when finished.

COMPRESSORS AND COMPRESSED AIR CHECKLIST

- ☐ Are compressors equipped with pressure relief valves and pressure gauges?
- ☐ Are compressor air intakes installed and equipped so as to ensure that only clean uncontaminated air enters the compressor?
- ☐ Are air filters installed on the compressor intake?
- ☐ Are compressors operated and lubricated in accordance with the manufacturer's recommendations?
- ☐ Are safety devices on compressed air systems checked frequently?
- ☐ Before any repair work is done on the pressure system of a compressor, is the pressure bled off and the system locked-out?
- ☐ Are signs posted to warn of the automatic starting feature of the compressors?
- ☐ Is the belt drive system totally enclosed to provide protection for the front, back, top and sides?
- ☐ Is it strictly prohibited to direct compressed air towards a person?
- ☐ Are employees prohibited from using compressed air for cleaning purposes?
- ☐ If compressed air is used for cleaning off clothing, is the pressure reduced to less than 10 psi?
- ☐ When using compressed air for cleaning, do employees wear protective chip guarding and personal protective equipment?
- ☐ Are safety chains or other suitable locking devices used at couplings of high-pressure hose lines where a connection failure would create a hazard?
- ☐ Before compressed air is used to empty containers of liquid, is the safe working pressure of the container checked?
- ☐ Is it prohibited to use compressed air to clean up or move combustible dust if such action could cause the dust to be suspended in the air and cause a fire or explosion hazard?

COMPRESSED GAS CYLINDERS CHECKLIST

- ☐ Are cylinders with water weight capacity over 30 pounds (13.5 kilograms), equipped with means for connecting a valve protector device, or with a collar or recess to protect the valve?
- ☐ Are cylinders legibly marked to clearly identify the gas contained?
- ☐ Are compressed gas cylinders stored in areas, which are protected from external heat sources such as flame impingement, intense radiant heat, electric arcs, or high temperature lines?
- ☐ Are cylinders stored or transported in a manner to prevent them from creating a hazard by tipping, falling, or rolling?

- ☐ Are cylinders containing liquefied fuel gas, stored or transported in a position so that the safety relief device is always in direct contact with the vapor space in the cylinder?
- ☐ Are valve protectors always placed on cylinders when the cylinders are not in use or connected for use?
- ☐ Are all valves closed off before a cylinder is moved, when the cylinder is empty, and at the completion of each job?
- ☐ Are low-pressure fuel-gas cylinders checked periodically for corrosion, general distortion, cracks, or any other defect that might indicate a weakness or render it unfit for service?
- ☐ Does the periodic check of low-pressure fuel-gas cylinders include a close inspection of the cylinders' bottom?

Refer to SEC Safety and Health Management System (5-STAR) element (2.6).

MOBILE EQUIPMENT AND FORK TRUCKS

The work area has numerous vehicles in and around it constantly, from specialized tractors, fork trucks, hauls trucks, to passenger cars and trucks. As on the roads, certain rules apply on contract workplace and the chances of accidents happening will be reduced if the following rules, are followed by Contractors.

- Always wear seat belts while in a vehicle.
- Do not operate any equipment unless you have been trained and licensed to do so.
- No horseplay while operating a vehicle.
- Equipment that operates at night must have proper head and tail lights.
- Complete the vehicle checklist BEFORE operating the vehicle.
- If safety defects are found, get them fixed before operating the equipment.
- Observe and obey all traffic signs.
- Front loaders must park with the bucket on the ground and parking brake set.
- Ensure that loads are secure and cannot fall out.
- Use the horn for warning purposes only.
- Some vehicles cannot accommodate passengers, do not offer rides!
- Park vehicles at least 8 feet (1.3M) from railroad tracks.
- Do not ride in buckets, flat beds, on forks or on any part of equipment not intended for passengers.
- Check loading dock chocks before driving into or onto cars or trucks being loaded.
- Speed limits must be obeyed at all times.
- Do not allow any body part to protrude from a vehicle that is operating

- Only specially approved man baskets shall be used on the fork truck as a work platform.
- Fire extinguishers on the equipment must be checked at the beginning of each shift.
- Fuel tanks shall not be filled with the engine running.
- Portable gas containers shall be removed from any vehicle and placed on the ground before filling. If you are unable to remove the container, proper grounding cables shall be attached.
- Vehicles shall not be left unattended unless parking brakes are set and the engine is turned off.
- Never mount or dismount any moving vehicle.
- Use at least the 3-second rule when following a vehicle in normal day-to-day traffic.
- Always signal before making a lane change or moving.
- Come to a complete stop at stop signs.
- Inspect your vehicle before operating.

Refer to SEC Safety and Health Management System (5-STAR) element (2.9).

FUELING CHECKLIST

- ☐ Is it prohibited to fuel an internal combustion engine with a flammable liquid while the engine is running?
- ☐ Are fueling operations done in such a manner that likelihood of spillage will be minimal?
- ☐ When spillage occurs during fueling operations is the spilled fuel washed away completely, evaporated or other measures taken to control vapors before restarting the engine?
- ☐ Are fuel tank caps replaced and secured before starting the engine?
- ☐ In fueling operations, is there always-metal contact between the container and the fuel tank?
- ☐ Are fueling hoses of a type designed to handle the specific type of fuel?
- ☐ Is it prohibited to handle or transfer gasoline in open containers?
- ☐ Are open lights, open flames, sparks or arcing equipment prohibited near fueling or transfer of fuel operations?
- ☐ Is smoking prohibited in the vicinity of fueling operations?
- ☐ Are fueling operations prohibited in buildings or other enclosed areas that are not specifically ventilated for this purpose?
- ☐ Where fueling or transfer of fuel is done through a gravity flow system are the nozzles of the self-closing type?

LIFTING GEAR, BOOMS AND CRANES

Lifting heavy items is a daily activity in the workplace and this activity creates a hazard to people and equipment in the vicinity of the lift. As with most industrial activities, the degree of risk can be reduced by adhering to a few basic principles and rules. Once a crane raises an item, it has stored energy, which if inadvertently released, could result in loss.

You can play a major role in ensuring lifting gear and crane safety by following these basic lifting rules. Share them with your employees:

- Do not operate any lifting apparatus for which you have not been trained.
- Never stand, or pass under, a suspended load.
- Don't place any part of your body under a suspended load, even for a second.
- Check the weight before every lift; check the lifting gear's capacity as well.
- Do not tie knots in steel ropes, slings or chains.
- Rusty, dirty and damaged slings are potential accidents! Discard them.
- Inspect your lifting gear on a regular basis, and before use.
- Never use signs of tipping to determine if a load is within your crane's capacity.
- Man lifts are for people only. Tie off at all times in man lifts.
- Store slings, shackles etc. in a dry pre-determined storage area.
- Lifting gear is for lifting...not towing!
- Don't leave gear lying on the floor.
- Crane outriggers, if provided, must be used for all lifts.
- Gain understanding as to what crane signals will be used.
- Only one person is to issue instructions to a crane operator during a lift.

BOOMS

- Never get under a boom that is being repaired or assembled. It can fall without warning.
- Never use boom sections with bent lattice members.
- Never use a boom with bent or damaged chords.
- Always block booms when assembling them.
- Be sure all boom insert connection pins are installed before raising any boom being assembled.
- Always check telescopic booms for sway; droop or cracks.

HOIST AND AUXILIARY EQUIPMENT CHECKLIST

- ☐ Is each overhead electric hoist equipped with a limit device to stop the hook travel at its highest and lowest point of safe travel?
- ☐ Will each hoist automatically stop and hold any load up to 125 percent of its rated load if its actuating force is removed?
- ☐ Is the rated load of each hoist legibly marked and visible to the

- ☐ Are hoists inspected on a monthly basis?
- ☐ Are stops provided at the safe limits of travel for trolley hoist?
- ☐ Are the controls of hoist plainly marked to indicate the direction of travel or motion?
- ☐ Is each cage-controlled hoist equipped with an effective warning device?
- ☐ Are close-fitting guards or other suitable devices installed on the hoist to assure hoist ropes will be maintained in the sheave grooves?
- ☐ Are all hoist chains or ropes of sufficient length to handle the full range of movement of the application while still maintaining two full wraps on the drum at all times?
- ☐ Are nip points or contact points between hoist ropes and sheaves which are permanently located within 7 feet (2.1336 meters) of the floor, ground or working platform, guarded?
- ☐ Is it prohibited to use chains or rope slings that are kinked or twisted?
- ☐ Is it prohibited to use the hoist rope or chain wrapped around the load as a substitute, for a sling?
- ☐ Is the operator instructed to avoid carrying loads over people?

Refer to *SEC Safety and Health Management System (5-STAR) element (2.5).*

FALL PROTECTION

Falls at work and at home have dire consequences and result in severe and often permanent injuries. Fall protection is required in certain situations where there is a possibility of a person falling from a height. Some of these situations are as follows. If you are unsure, ask your Contract Manager.

FALL PROTECTION (Full Body Harness) IS REQUIRED:

- When working at a height of 6 feet (2M) or more and you are not on a work platform.
- When working from a scaffold higher than 6 feet high (2M).
- When operating and riding in a man lift.
- Where there is a chance you may fall.
- When working on, or near the edge of platforms.
- Around openings.
- When on a platform designed to lift a person to any height over 6 feet (2M).
- Where possible, the fall hazard should be covered or guarded, if not, fall protection is required.

There may be other situations in your work area that require you to wear fall protection, when in doubt, check with the manager.

Refer to *SEC Safety and Health Management System (5-STAR) element (2.21)*.

ENTERING CONFINED SPACES CHECKLIST

- ☐ Are confined spaces thoroughly emptied of any corrosive or hazardous substances, such as acids or caustics, before entry?
- ☐ Are all lines to a confined space, containing inert, toxic, flammable, or corrosive materials blanked off and blanked or disconnected and separated before entry?
- ☐ Are all impellers, agitators, or other moving parts and equipment inside confined spaces locked-out if they present a hazard?
- ☐ Is either natural or mechanical ventilation provided prior to confined space entry?
- ☐ Are appropriate atmospheric tests performed to check for oxygen deficiency, toxic substances and explosive concentrations in the confined space before entry?
- ☐ Is adequate illumination provided for the work to be performed in the confined space?
- ☐ Is the atmosphere inside the confined space frequently tested or continuously monitored during conduct of work?
- ☐ Is there an assigned safety standby employee outside of the confined space, when required, whose sole responsibility is to watch the work in progress, sound an alarm if necessary, and render assistance?
- ☐ Are all participating employees properly trained?
- ☐ Is the standby employee appropriately trained and equipped to handle an emergency?
- ☐ Is the standby employee or other employees prohibited from entering the confined space without lifelines and respiratory equipment if there is any question as to the cause of an emergency?
- ☐ Is approved respiratory equipment required if the atmosphere inside the confined space cannot be made acceptable?
- ☐ Is all portable electrical equipment used inside confined spaces either grounded and insulated or equipped with ground fault protection?
- ☐ Before gas welding or burning is started in a confined space, are hoses checked for leaks, compressed gas bottles forbidden inside of the confined space, torches lighted only outside of the confined space and the confined space tested for an explosive atmosphere

each time before a lighted torch is to be taken into the confined space?

- ☐ If employees will be using oxygen-consuming equipment, such as salamanders, torches and furnaces in a confined space, is sufficient air provided to assure combustion without reducing the oxygen concentration of the atmosphere below 19.5 percent by volume?
- ☐ Whenever combustion type equipment is used in a confined space, are provisions made to ensure the exhaust gases are vented outside of the enclosure?
- ☐ Is each confined space checked for decaying vegetation or animal matter, which may produce methane?
- ☐ Is the confined space checked for possible industrial waste, which could contain toxic properties?
- ☐ If the confined space is below the ground and near areas where motor vehicles will be operating, is it possible for vehicle exhaust or carbon monoxide to enter the space?

GENERAL CONSTRUCTION HAZARDS

Mobile Equipment

Mobile equipment operators may have blind spots, stay clear. Don't approach equipment unless authorized. Ensure that the operator knows you are there and signals that it is okay for you to approach the vehicle. Keep a safe distance when following mobile equipment on ramps; it can coast downhill if the engine or drive line fails. Materials can fall out of loaded trucks onto your vehicle or in front of you. Never work or stand between equipment and a wall or other place where you can be crushed.

Delivery Trucks

Drivers must stay in vehicles while in the loading areas. Trim and tarp loads in designated areas only. Provide safe access and use fall protection when climbing on trucks or redistributing loads.

Moving Machinery

Stay clear of moving machinery; equipment may start automatically. Do not work on or close to any machine that has not been stopped and blocked to make it safe from movement. Electrically powered equipment must be shut off, de-energized, locked out and tagged. Address all energy sources to prevent sudden movement or activation; replace guards before operating equipment. Block equipment to prevent movement before working on, under or around it.

Right of Way

Assume that all trucks always have the right of way.

Blasting

Know the blasting signals; unless authorized stay away from explosives vehicles and designated or barricaded blast areas. Go to designate safe area during blasts until all clear is given; stay out of the area unless specifically authorized to enter.

Noise

Wear hearing protection when exposed to noise.

Dust

Use water or other control measures if your work generates dust; wear respirators.

Eye Protection

Wear safety glasses at all times. Goggles or face shields are required when there are special hazards due to grinding, cutting, handling chemicals, etc. Cutting goggles and welding hoods are required for hot work (welding hood must attach to hard hat).

Fall Prevention

Use three points of contact when climbing; practice good housekeeping; report trip hazards; use handrails on stairs and walkways; no running or jumping; use fall protection where there is danger of falling.

Falling Objects

Wear a hard hat at all times where designated a hardhat area. Inspect your work area for fall of material hazards. Wear hard-toed safety shoes to protect your feet on all construction sites.

Fire or Explosion

Do not smoke or use flame-producing devices in areas where flammable or combustibles exist or are posted.

Fumes

Avoid areas where welding fumes or engine exhaust are present. Use mechanical exhaust ventilation when welding in confined spaces; use correct respirators. Keep petrol operated equipment out of confined areas.

Welding Flash

Protect others from flash when welding by using curtains. Avoid areas where welding is in progress. Don't look at arcs without proper eye protection.

Electrical Hazards

Do not operate equipment near energized overhead cables. Have earth systems tested on temporary or portable devices and cords, or use earth leakage circuit interrupters. Only authorized persons can enter switchgear areas or work on electrical equipment. Always assume that electrical devices and power lines are energized.

Weather

Avoid working outside during, too hot, too cold, lightening, heavy rain, hail, sand storms or high winds. Watch for changing weather conditions, determine a safe shelter area before you might have to use it.

Seat Belts

Seat belt use is mandatory when operating vehicles or mobile equipment.

ENVIRONMENTAL CONTROLS CHECKLIST

- ☐ Are all work areas properly illuminated?
- ☐ Are employees instructed in proper first aid and other emergency procedures?
- ☐ Are hazardous substances, blood and other potentially infectious materials identified, which may cause harm by inhalation, ingestion, or skin absorption or contact?
- ☐ Are employees aware of the hazard involved with the various chemicals they may be exposed to in their work environment, such as ammonia, chlorine, epoxies, caustics, etc.?
- ☐ Is employee exposure to chemicals in the work place kept within acceptable levels?
- ☐ Can a less harmful method or process be used?
- ☐ Is the work area's ventilation system appropriate for the work being performed?
- ☐ Are spray painting operations done in spray rooms or booths equipped with an appropriate exhaust system?
- ☐ Is employee exposure to welding fumes controlled by ventilation, use of respirators, exposure time or other means?
- ☐ Are welders and other workers nearby provided with flash shields during welding operations?
- ☐ If forklifts and other vehicles are used in buildings or other enclosed areas, are the carbon monoxide levels kept below maximum acceptable concentration?
- ☐ Has there been a determination that noise levels in the facilities are within acceptable levels?
- ☐ Are proper precautions being taken when handling asbestos and other fibrous materials?
- ☐ Are caution labels and signs used to warn of hazardous substances (e.g., asbestos)
- ☐ Are wet methods used, when practicable, to prevent the emission of airborne asbestos fibers, silica dust and similar hazardous materials?

- ☐ Are engineering controls examined and maintained or replaced on a scheduled basis?
- ☐ Is vacuuming with appropriate equipment used whenever possible rather than blowing or sweeping dust?
- ☐ Are grinders, saws, and other machines that produce respirable dusts vented to an industrial collector or central exhaust system?
- ☐ Are all local exhaust ventilation systems designed and operating properly such as airflow and volume necessary for the application, ducts not plugged or belts slipping?
- ☐ Is personal protective equipment provided, used and maintained wherever required?
- ☐ Are there written standard operating procedures for the selection and use of respirators where needed?
- ☐ Are restrooms and washrooms kept clean and sanitary?
- ☐ Is all water provided for drinking, washing and cooking potable?
- ☐ Are all outlets for non-potable water clearly identified?
- ☐ Are living quarters adequate, clean and hygienic?
- ☐ Are employees' physical capacities assessed before being assigned to jobs requiring heavy work?
- ☐ Are employees instructed in the proper manner of lifting heavy objects?
- ☐ Are employees screened before assignment to areas of high heat to determine if their health condition might make them more susceptible to having an adverse reaction?
- ☐ Are employees working on streets and roadways where they are exposed to the hazards of traffic, required to wear bright colored (traffic orange) warning vests?
- ☐ Are exhaust stacks and air intakes so located that contaminated air will not be re-circulated within a building or other enclosed area?
- ☐ Is equipment producing ultraviolet radiation properly shielded?

HAZARDOUS CHEMICAL EXPOSURE CHECKLIST

- ☐ Are employees trained in the safe handling practices of hazardous chemicals such as acids, caustics, etc.?
- ☐ Are employees aware of the potential hazards involving various chemicals stored or used in the workplace such as acids, bases, caustics, epoxies and phenols?
- ☐ Is employee exposure to chemicals kept within acceptable levels?
- ☐ Are eye wash fountains and safety showers provided in areas where corrosive chemicals are handled?
- ☐ Are eye wash fountains and safety showers inspected on a weekly basis?
- ☐ Are all containers, such as vats and storage tanks labeled as to their contents?, e.g., "CAUSTICS"
- ☐ Are all employees required to use personal protective clothing and equipment when handling chemicals (gloves, eye protection and respirators)?
- ☐ Are flammable or toxic chemicals kept in closed containers when not in use?
- ☐ Is chemical-piping systems clearly marked as to their content?
- ☐ Where corrosive liquids are frequently handled in open containers or drawn from storage vessels or pipelines, are adequate means readily available for neutralizing.
- ☐ Have standard operating procedures been established and are they being followed when cleaning up chemical spills?
- ☐ Where needed for emergency use, are respirators stored in a convenient, clean and sanitary location?
- ☐ Are respirators intended for emergency use adequate for the various uses for which they may be needed?
- ☐ Are employees prohibited from eating in areas where hazardous chemicals are present?
- ☐ Is personal protective equipment provided used and maintained whenever necessary?
- ☐ Are there written standard operating procedures for the selection and use of respirators where needed?
- ☐ If you have a respirator protection program, are your employees instructed on the correct usage and limitations of the respirators? Are they regularly inspected and cleaned, sanitized and maintained?
- ☐ If hazardous substances are used in your processes, do you have a medical or biological monitoring system in operation?
- ☐ Are you familiar with the Threshold Limit Values or Permissible Exposure Limits of airborne contaminants and physical agents used in your workplace?
- ☐ Have control procedures been instituted for hazardous materials, where appropriate, such as respirators, ventilation systems and handling practices?
- ☐ Whenever possible are hazardous substances handled in properly designed and exhausted booths or similar locations?
- ☐ Do you use general dilution or a local exhaust ventilation system to control dust, vapors, gases, fumes, smoke, solvents or mists which may be generated in your workplace?

- ☐ Is ventilation equipment provided for removal of contaminants from such operations as production grinding, buffing, spray painting, and/or vapor degreasing and is it operating properly?
- ☐ Do employees complain about dizziness, headaches, nausea, irritation or other factors of discomfort when they use solvents or other chemicals?
- ☐ Is there a dermatitis problem? Do employees complain about dryness, irritation or sensitization of the skin?
- ☐ Have you considered the use of an industrial hygienist or environmental health specialist to evaluate your operation?
- ☐ If internal combustion engines are used, is carbon monoxide kept within acceptable levels?
- ☐ Is vacuuming used, rather than blowing or sweeping dust whenever (Assible for clean up?
- ☐ Are materials that give off toxic asphyxiant, suffocating or anesthetic fumes, stored in remote or isolated locations when not in use?

Refer to *SEC Safety and Health Management System (5-STAR) element (2.7).*

PERSONAL PROTECTIVE EQUIPMENT [PPE]

If removing the hazard or if engineering solutions are not feasible then personal protective equipment [PPE] may be the best defenses against personal injury. When correctly worn and used, it can reduce the amount of energy exchanged in an accident situation and prevent or reduce the degree of injury.

SEC has developed a way to assess the risks in your workplace and determined the hazards present and will provide you with specialized PPE where appropriate.

Your duty is to ensure your employees wear the PPE and maintain it in a good state of repair. SEC requires that you use the correct PPE to protect from injuring to the head, eyes, face, respiratory system, hands and feet. When using PPE remember the following:

- Make sure the PPE fits correctly.
- Does the PPE offer the best protection?
- Make sure the equipment is comfortable.
- Keep the equipment clean and in a good state of repair.
- Clean the PPE before putting it away.
- Dispose or trade in any damaged item.
- Store PPE in the proper places. Avoid conditions that could damage the equipment such as, heat, light, moisture etc.
- Dispose of contaminated PPE according to the procedures.
- Once again, if in doubt, ask!

Personal Protective Equipment is your own safety program. You are in control of your workers and only you can manage the actions around the correct use and wearing of PPE.

PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING CHECKLIST

- ☐ Are you assessing the workplace to determine if hazards that require the use of personal protective equipment (e.g. head, eye, face, hand, or foot protection) are present or are likely to be present and is this assessment documented?
- ☐ If hazards or the likelihood of hazards are found, are you selecting and having affected employees use properly fitted personal protective equipment suitable for protection from these hazards?
- ☐ Has the employee been trained on PPE procedures, i.e. what PPE is necessary for a job task, when they need it, and how to properly adjust it?
- ☐ Are protective goggles or face shields provided and worn where there is any danger of flying particles or corrosive materials?
- ☐ Are approved safety glasses with side shields required to be worn at all times in areas where there is a risk of eye injuries such as punctures, abrasions, contusions or burns?
- ☐ Are protective gloves, aprons, shields, or other means provided and required where employees could be cut or where there is reasonably anticipated exposure to corrosive liquids, chemicals, blood, or other potentially infectious materials?
- ☐ Are hard hats provided and worn where danger of falling objects exist?
- ☐ Do all employees on site wear reflective vests at all times?
- ☐ Are hard hats inspected periodically for damage to the shell and suspension system?
- ☐ Is appropriate foot protection required where there is the risk of foot injuries from hot, corrosive, poisonous substances, falling objects, and crushing or penetrating actions?
- ☐ Are approved respirators provided for regular or emergency use where needed?
- ☐ Is all protective equipment maintained in a sanitary condition and ready for use?
- ☐ Do you have eye wash facilities and a quick Drench Shower within the work area where employees are exposed to injurious corrosive materials?
- ☐ Where special equipment is needed for electrical workers, is it available?

- ☐ Where food or beverages are consumed on the premises, are they consumed in areas where there is no exposure to toxic material, blood, or other potentially infectious materials?
- ☐ Is protection against the effects of occupational noise exposure provided when sound levels exceed those of the noise standard?
- ☐ Are adequate work procedures, protective clothing and equipment provided and used when cleaning up spilled toxic or otherwise hazardous materials or liquids?
- ☐ Are there appropriate procedures in place for disposing of or decontaminating personal protective equipment contaminated with, or reasonably anticipated to be contaminated with, blood or other potentially infectious materials?

Refer to *SEC Safety and Health Management System (5-STAR) element (2.15-2.23)*.

FIRE PREVENTION AND PROTECTION

The best way to fight fires is to prevent them. Here are some tips on fire prevention and protection:

- Keep work areas free from excessive material.
- Keep motors and tools free from dust and grease.
- Don't let transmission shafts or bearings overheat.
- Dispose of combustible scrap, such as oily rags, in metal containers with tight fitting lids. These containers are specially marked.
- Welding and cutting operations must only be carried out in designated areas.
- If necessary obtain a hot work or burning permit.
- Screen the welding area to protect others and reduce the chance of sparks flying.
- Never use oil or grease on oxygen bottles, hoses or fittings.
- Take fire drills and evacuation drills seriously, they are exercises for your safety.
- Learn the location of fire exits in your area.
- Get trained in the use of fire extinguishers. Know the members of the fire \ rescue team in your area.
- Do not stack or store anything below or near fire fighting equipment.
- Do not use the fire hoses and extinguishers for any other purpose than fire fighting.
- Obey the "No Smoking" signs and extinguish cigarettes correctly. Look for correct cigarette butt receptacles.
- SEC has a "NO SMOKING" policy for all owned or leased facilities. Smoking is not permitted inside any building or structure, near any building entrances, near air intakes or common paths of travel. Smoking is only allowed in designated outdoor "SMOKING AREAS".
- Don't drop lit cigarettes into trashcans.

- Don't throw cigarettes out of vehicles. Some vehicles on site are "No Smoking" zones.
- If a fire extinguisher has been discharged or is in poor condition, it must be replaced immediately. Report it.
- Crosscheck that the fire equipment in your area has been inspected for the month.
- Report any fire hazard or defective fire equipment immediately.

Refer to *SEC Safety and Health Management System (5-STAR) SECTION 3 - Fire Protection and Prevention Protection*.

EMERGENCY FIRST AID AND MEDICAL SERVICES

Knowledge of emergency first aid could help you save a life and render valuable assistance to an injured employee. Learn and know by heart the steps for severe bleeding, electric shock, choking and CPR.

If you are the first on the scene of an accident, fast action is important. Check that the site is safe before doing anything else. Phone the emergency number and summons help immediately. Do not leave the victim unattended unless there is no one else to go for help. Render first aid. If you must leave the victim, make sure he is in a safe position.

Control of Bleeding - Act quickly.

Send for medical assistance immediately. Apply direct pressure to the wound. Elevate the injured portion of the body and make the person comfortable.
EXTREME CAUTION SHOULD BE EXERCISED WHEN CONTACTING BODY FLUIDS, WEAR MEDICAL GLOVES WHENEVER POSSIBLE.

Refer to *SEC Safety and Health Management System (5-STAR) element (5.6 / 5.7)*.

SAFETY SIGNS AND NOTICES

- Safety signs form an important part of any safety system. The purpose of safety signs is to inform people about certain safety conditions. They also give information, warnings and indicate what action must be taken in certain cases.
- Correct signs can warn people and help prevent accidents caused because the person was unaware or was not warned of the danger, or precautions, to take.

Refer to *SEC Safety and Health Management System (5-STAR) element (2.24)*.

GENERAL

Use this page to make notes on specific things that you must remember to make your contract workplace a safe and healthy one.

MAIN HAZARDS IN MY CONTRACT AREA

EMERGENCY PHONE NUMBERS

MY SAFETY OFFICER IS

OTHER SAFETY INFORMATION

SAFETY AND HEALTH RULEBOOK

NAME _____ CONTRACTOR _____

SEC CONTRACTS _____ DEPT/DIV. _____
MANAGER _____

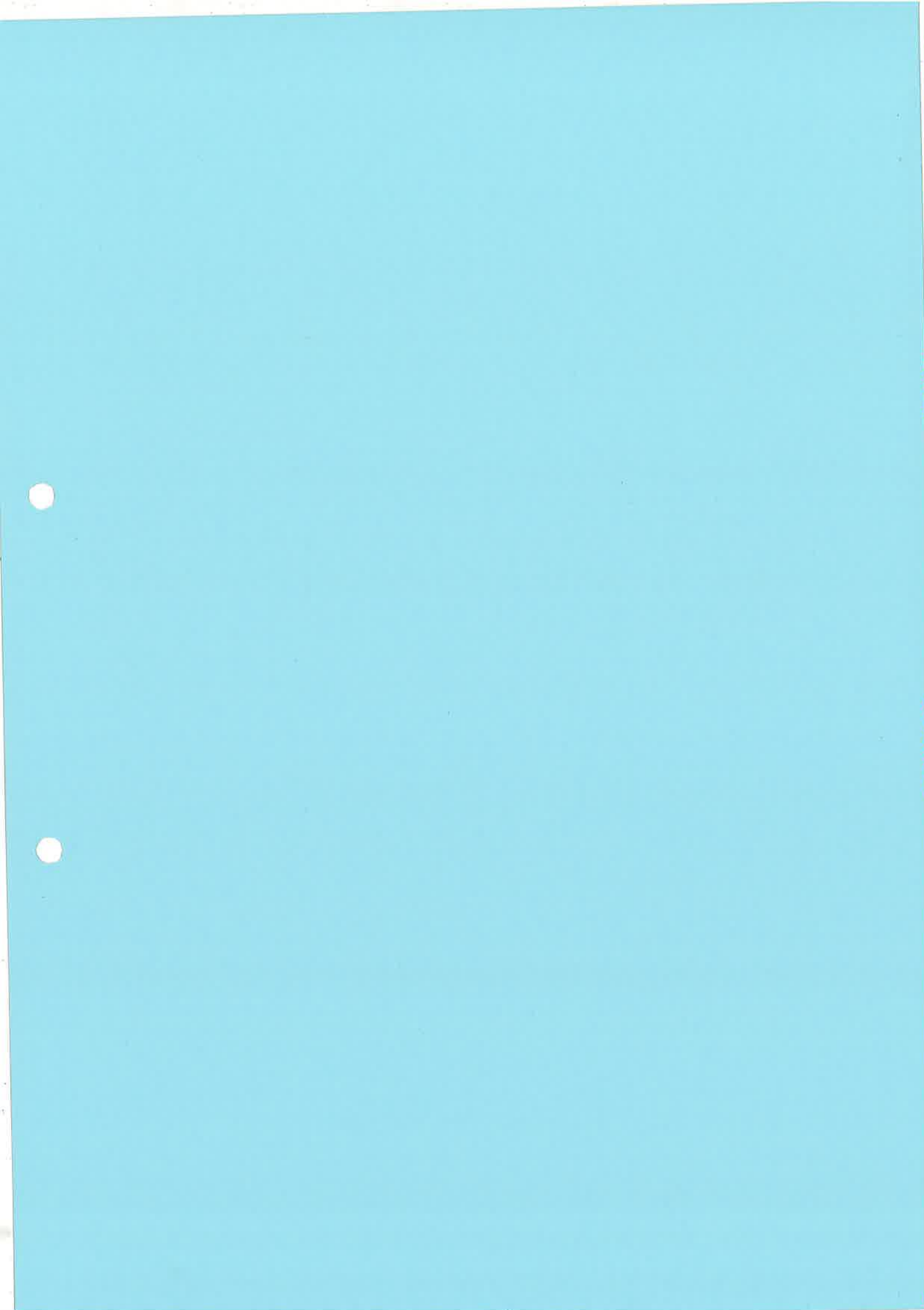
We.....
acknowledge receipt of this Safety rulebook.

We are aware of the high value that the SEC places on personal safety and safety in general as well.

We will request assistance for clarity on any aspects of safety rules and procedures that are not clear to us.

We are committed to do all we can to make the contract workplace safe and prevent accidents.

SIGNED _____ DATE _____



NEAR MISS ACCIDENT REPORT



Near Miss Incident / Accident Initial Report (4.2.2)



Event Type: Loss Type:
Operating Area: Business Line Sector
Location: Dept.
Time: Date:

Evaluate what could have happened, not what have happened

Probability of Recurrence	High	Red	Red	Yellow	White
	Medium-high	Red	Red	Yellow	White
	Medium	Yellow	Yellow	Yellow	White
	Low	White	White	White	White
		High	Medium-high	Medium	Low
		Loss Potential Severity			

Description of The Event

.....
.....
.....
.....
.....

Reported By:

Name: Position: Tel.

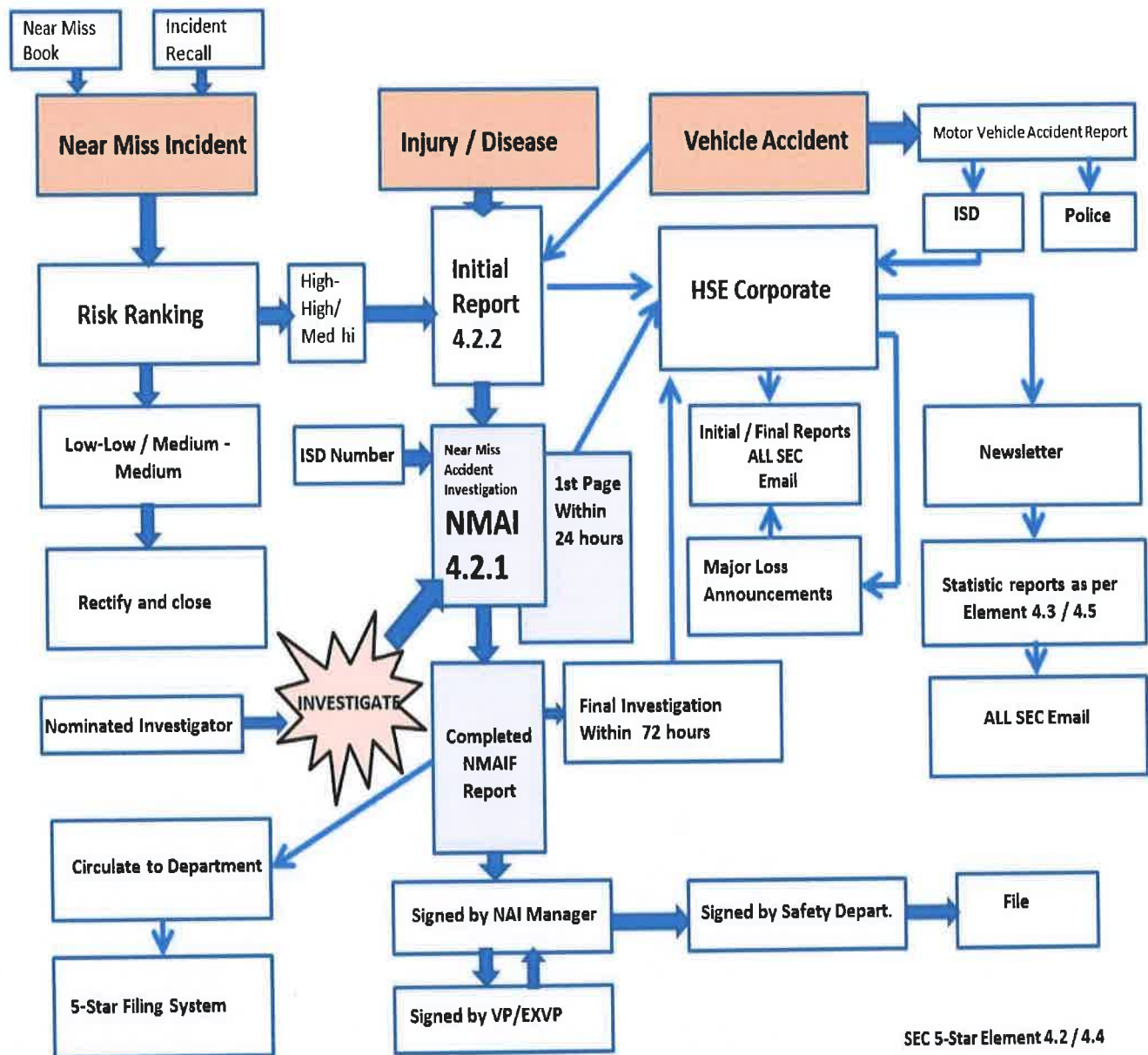
The person responsible for the investigation and submission of
report about the incident:

Follow-up meeting date: Date of the initial meeting:

The final report due Date:

Note:

In the case of presence of picture, please put in another file and attach with the initial report.
send this form within 24 hours of the accident or near-miss incident.



SEC 5-Star Element 4.2 / 4.4

The Accident / Near Miss Incident reporting flow chart

ELEMENT 4.1.2

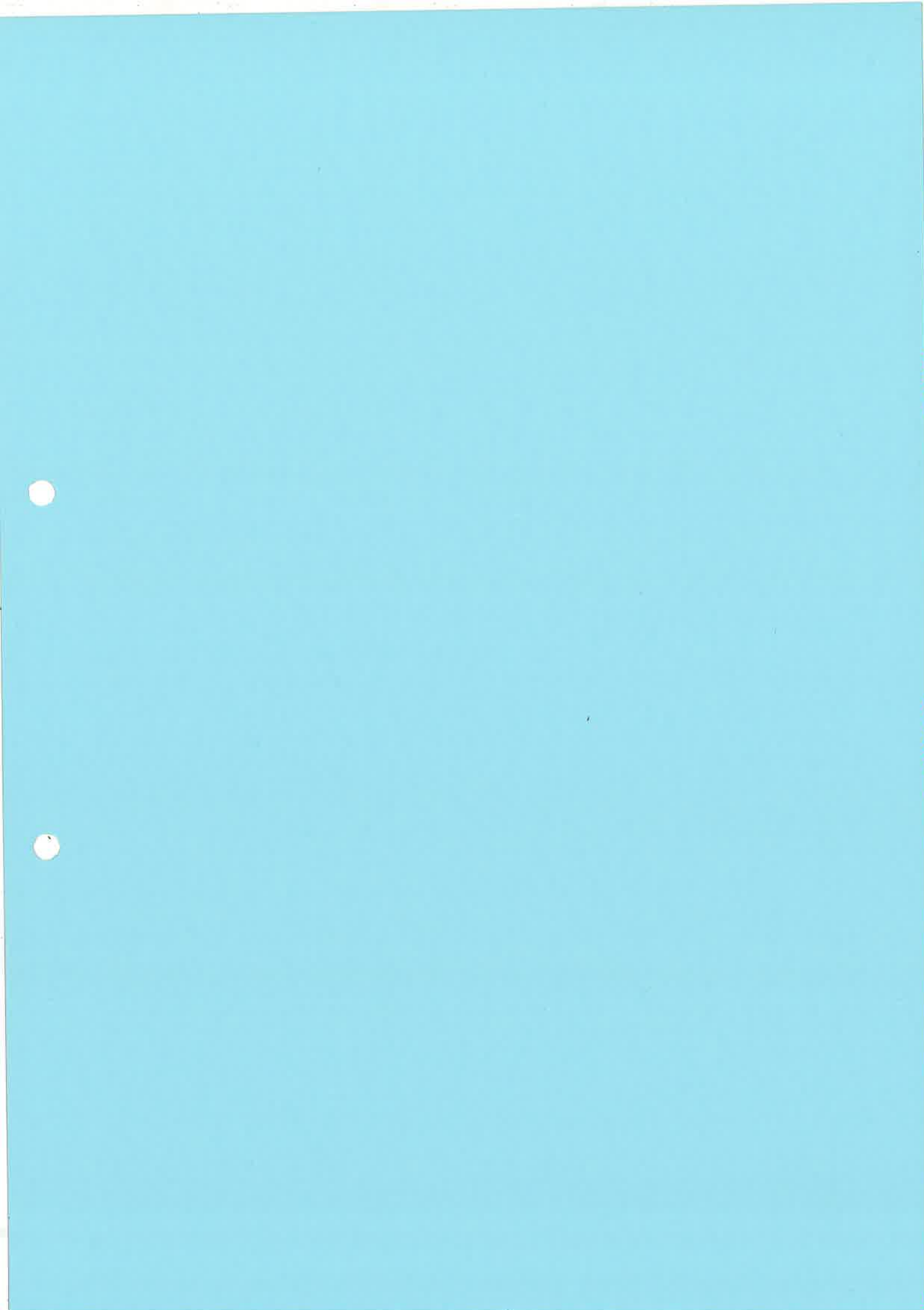
NEAR MISS (SAFETY OBSERVATION) REGISTER

Year _____

[illegible]

Inv. No	Date of Near Miss	Loss / Recurrence	Investigation Coordinator	Short Description of Incident	Date Investigation Initiated	Date Investigation Closed Out

NOTE: WHERE THERE HAVE BEEN NO NEAR MISS REPORTS FOR THE MONTH, PUT A DATE IN AND LIST "NO REPORTS"



ACCIDENT INVESTIGATION REPORT



Accident Investigation (Near miss Incidents, Loss Accidents, Lost Time Injuries) (4.2.1)

Instructions: The investigator must fill in all fields in full and then re-send a copy of the front page to safety department within 24 hours. And send the completed investigation's final report to the Department of industrial security within 72 hours.

Employee General Information:

Name:		Position:		Badge no.	
Operating Area:		Business Line:		Sector:	
Dept. :		Location:			
Accident Date:		Reporting date:		Over Time:	☐ Y ☐ N
Accident Time:	☐ AM ☐ PM	Reporting time:	☐ AM ☐ PM	Number of overtime hours?	
Task:		Shift start time:		☐ AM ☐ PM	
Experience:		Investigation date:			
Supervisor name		Signature:		Date:	
Manager name:		Signature:		Date:	

Loss Level	possibility reoccurrence	Expected Loss	Injury Severity Level	Accident Type
☐ no equipment damage	☐ low	☐ low	☐ first aid	☐ Near Miss
☐ less than 5000 SR loss	☐ medium	☐ medium	☐ minor	☐ Accident
☐ more than 5000 SR loss	☐ med-high	☐ med-high	☐ lost time inj.	☐ Property Damage
☐ major damage	☐ high	☐ high	☐ disability inj.	☐ Vehicle Accident (Complete the MVA Part)
☐ lost time inj.			☐ no medical treatment required	☐ Fire
☐ Other			☐ Other	☐ Occupational Inj.
Control no.:				☐ Non-occ. Inj.
The estimated costs of losses: SR				☐ Other

For Motor Vehicle Accident (MVA)

Vehicle type:	Vehicle No.:	Plate No.:	No. of vehicle involved:
---------------	--------------	------------	--------------------------

Basic causes

☐ Improper speed for existing condition	☐ Improper turning	☐ Vehicle defect
☐ Delayed Perception	☐ Sudden movement	☐ Other party fault
☐ Faulty evasive action	☐ Following too closely	☐ Other party fault
☐ Improper backing	☐ Improper parking	☐ Traffic signal violation
☐ Wrong lane or position	☐ Other	*****

Body Part

☐ Head	☐ neck	☐ forehead	☐ eyes	☐ right eye	☐ left eye
☐ nose/ mouth/ ear	☐ shoulder	☐ chest	☐ hands	☐ right hand	☐ left hand
☐ Arms	☐ right arm	☐ left arm	☐ both Wrists	☐ right wrist	☐ left wrist
☐ Arms	☐ right arm	☐ left arm	☐ hand fingers	☐ back	☐ upper back

☐ mid-back	☐ Low Back	☐ hips	☐ right hip	☐ left hip	☐ legs
☐ right leg	☐ left leg	☐ knees	☐ right knee	☐ left knee	☐ feet
☐ right foot	☐ left foot	☐ ankles	☐ right ankle	☐ left ankle	☐ feet fingers

☐ other Specify: _____

Nature of Injury:

☐ Traumatic Amputation	☐ Contusion (Bruise)	☐ Skin Irritation	☐ Heat Exhaustion Stroke	☐ Sprain / Strain	☐ Foreign Object
☐ Asphyxia	☐ Wound (Laceration/Abrasion)	☐ Dislocation	☐ Hernia	☐ Multiple Injuries	
☐ Burn (Heat or Chemical)	☐ Fracture (Open/Closed)	☐ Electrical Shock	☐ Inflammation	☐ Puncture	
☐ Other	*****				

Describe clearly how the accident occurred or Near Miss happened:

Contact Type:

☐ Struck Against	☐ Caught On	☐ Fall From Same Level	☐ Electricity	☐ Caustics / Acid
☐ Struck By	☐ Caught Between	☐ Fall To Lower Level	☐ Heat	☐ Noise
☐ Caught In	☐ Slip	☐ Overexertion	☐ Cold	☐ Toxic / Nontoxic Substance

Unsafe Acts

☐ Failure To Warn	☐ Using Equipment Improperly	☐ Servicing Equipment in Operation
☐ Failure To Secure	☐ Failure To Wear PPE	☐ Horseplay
☐ Operating At Improper Speed	☐ Improper Loading	☐ Not Following Procedure
☐ Making Safety Devices Inoperable	☐ Improper Placement	
☐ Removing Safety Devices	☐ Improper Lifting	
☐ Using Defective Equipment	☐ Improper Positioning	☐ Other (Specify)

Unsafe Conditions

☐ Inadequate or Improper PPE	☐ Inadequate Ventilation	☐ Hazardous Environment
☐ Defective Tools/ Equipment/Materials	☐ Inadequate Warning System	☐ Radiation Exposure
☐ Noise Exposure	☐ Fire & Explosion Hazard	☐ High or Low Temperature Exposure
☐ Congestion/Restricted/ Overcrowded Work Area	☐ Poor Housekeeping	☐ Inadequate / Excess Illumination

☐ Other (Specify):

Describe the unsafe act(s)/ (At Risk Behavior) and condition(s) that existed:

Unsafe Act(s) / (At Risk Behavior):

Unsafe Condition(s) / (High Risk Environment):

Which job factors lead to the unsafe condition / at risk behavior? Explain.

- | | | |
|--|---|--|
| ☐ Inadequate Leadership / Supervision | ☐ Inadequate Maintenance | ☐ Wear And Tear |
| ☐ Inadequate Engineering | ☐ Inadequate Tools / Equipment | ☐ Abuse Or Misuse |
| ☐ Inadequate Purchasing | ☐ Inadequate Work Standards | ☐ Inadequate Ergonomic Design |
| ☐ Other (Specify) | | |

Which personal factors led to the unsafe act ? Explain.

- | | | | | | |
|--|--|--|---------------------------------|--|---|
| ☐ Inadequate Capability | ☐ Lack Of Knowledge | ☐ Lack Of Skill | ☐ Stress | ☐ Improper Motivation | ☐ Physical Problem |
| ☐ Other (Specify) | | | | | |

Which safety system elements could prevent recurrence or reduce risk? (See attached list of System Elements)

Safety Equipment In Use:

☐ Hard Hat ☐ Safety Shoes ☐ Respirator ☐ Gloves ☐ Fall Protection ☐ Protective Clothing
☐ Hearing Protection ☐ Goggles ☐ other(Specify)

Witnesses:

Name	Badge no.	Name	Badge no.
Name	Badge no.	Name	Badge no.
Name	Badge no.	Name	Badge no.

Sketch the conditions of the near miss / accident or attach statements from witnesses or photos if available

5-Star Safety System Elements

1.00 Premises & Housekeeping	2.6 Copressed Gas Cylinders	2.23 Control of Usage, Issue Maintenance Record of PPE	4.5 Non- Injury Statistics	5.14 Approved Safety Training Courses
1.1 Buildings & Floors	2.7 Hazardous Substances Control	2.24. Notices and Signs: Electrical, Mech., Safety Signs.	4.6 Insurance Costs	5.15 Medical Examinations
1.2 Lighting: Natural & Artificial	2.8 Lasers/ Radio-active Source	3.00 Fire Protection & Prevention	4.7 Incident Recall	5.16 Plant Inspection Safety Reps.
1.3 Ventilation: Natural & Artificial	2.9 Motorized Equipment	3.1 Fire Extinguishing Equipment	5.00 Safety Organization	5.17 Management Self-Audits
1.4 Plant Amenities & Sanitation	2.10 Portable Electric Equipment Earth	3.2 Locations Marked, Floor Clear	5.1. Managers as Responsible for S & H	5.18 Safety Specifications
1.5 Pollution: Air, Ground, & Water	2.11.Ground Fault Relays: Use and Checked	3.3 Maintenance of Equipment	5.2 Person Appointed for Safety ,Occupational Hygiene Coordn.	5.19 Written Safe Work Procedures
1.6 Aisles, Walkways, & Storage Demarcation	2.12 General Electrical Instalations & Flameproof	3.4 Storage of Flammable & Explosive Material	5.3 Designation of Safety Repr.	5.20 Planned Task Observation
1.7 Good Stacking & Storage Practices	2.13.Handtools	3.5 Alarm System	5.4 Safety Committees	5.21 Work Permits
1.8 Housekeeping	2.14 Ergonomics	3.6 Firefighting Drills & Instruction	5.5 Other Commu-nication System	5.22 Off The Job Safety
1.9 Scrap & Refuse Bins Removal System	2.15 Head protectors	3.7 Security System	5.6 FirstAider & Facilities	5.23 Health & Safety Policy
1.10 Color Coding: Plant & Pipelines	2.16 Eye & Face Protection	3.8 Emergency Planning	5.7 First-Aid Training	
2.00 Mechanical, Electrical, & Personal Safeguarding	2.17 Footwear	3.9 Fire Prevention & Protection Coordinator	5.8 Publicity, Bulletins,Newsletter, Etc.	

2.1 Machine Guarding	2.18 Protective Clothing	4.00 Accident Recording & Investigation	5.9 Injury Experience and Safety Board	
2.2 Lock Out System & Usage	2.19 Respiratory Equipment	4.1. Occupational injury Record	5.10 Suggestion Scheme	
2.3 Labeling Of Switches, Isolators, & Valves	2.20 Hearing Conservation	4.2 Internal Accident Reporting & Investigation	5.11 Safety Reference Library	
2.4 Ladders, Stairs, Walkways, & Scaffolding	2.21 Safety Harness	4.3. Occupational Injury Statistics	5.12 Annual Report Loss control Achievements	
2.5 Lifting Gear & Machinery	2.22 Hand Protection	4.4 Internal Accident reporting and Invisigation	5.13 Orientation and Job Safety Training	

Control steps to prevent recurrence

Steps	Assigned to	The scheduled completion date	The actual completion date
1.			
2.			
3.			
4.			
5.			

What follow-up actions that have been implemented to monitor the effectiveness of corrective actions?

Date of completion

- 1.
- 2.
- 3.
- 4.
- 5.

Supervisors or Investigators Notes

Detective Name:

Date:

Signature:

Supervisor name:

Date:

Signature:

Manager Name:

Date:

Signature:

Safety Eng. Name:

Date:

Signature:

Supervisors or Investigators Notes:

Date:

Signature:

Manager Notes:

Date:

Signature:

Executive Director Notes:

Date:

Signature:

VP Notes:

Date:

Signature:

Industrial Security Dept. Notes:

Date:

Signature: